Tourism and Recreation

Analysis of sustainable tourism practices and sustainability reports of environmentally friendly five star hotels in Antalya destination

Antalya destinasyonundaki çevreye duyarlı beş yıldızlı otellerin sürdürülebilir turizm uygulamalarının ve sürdürülebilirlik raporlarının analizi

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ABSTRACT

Sustainable and sensitive practices in the hotel industry have an important place in ensuring sustainability in tourism. These applications are in a wide range covering many dimensions such as energy management in hotel businesses, renewable energy applications, environmentally friendly accommodation business applications, carbon footprint, blue flag, and biodiversity protection. Efficient use of energy, water, and natural resources, benefiting from solar energy, reducing waste and environmental pollution, zero waste, healthy interior, and exterior decorations, preserving the balance of nature with green building, and all practices aimed at protecting natural resources are among the dimensions that show sustainable practices in hotel businesses. In this sense, hotel businesses in Turkey, which are described as environmentally friendly accommodation businesses, report their sustainability efforts along with current developments and share various sustainability practices on their websites. Some of the businesses that include different dimensions and studies in their sustainability reports reflect these studies on their websites and make them accessible to consumers under the "sustainability" heading on their websites. Considering that websites are an important digital marketing tool, using this tool up to date and creating a sustainable policy supported by technological developments will make these policies more permanent. This study aims to examine the sustainability-related posts and sustainability reports on the websites of five-star and environmentally friendly hotels in the Antalya destination, taking into account the 2030 Sustainable Development Goals of the United Nations, to identify sustainable tourism practices through their websites and to present a comparative analysis.

ÖZET

Turizmde sürdürülebilirliğin sağlanmasında otel endüstrisinde gerçekleştirilen sürdürülebilir ve duyarlı uygulamalar önemli bir yer tutmaktadır. Bu uygulamalar otel işletmelerindeki enerji yönetimi, yenilenebilir enerji uygulamaları, çevreye duyarlı konaklama işletmesi uygulamaları, karbon ayak izi, mavi bayrak, biyoçeşitliliği koruma gibi birçok boyutu kapsayan, geniş bir yelpazededir. Enerji ve doğal kaynakları verimli kullanma, güneş enerjisinden faydalanma, atıkların ve çevre kirliliğinin azaltılması, sıfır atık, sağlıklı iç ve dış dekorasyonlar, yeşil bina ile doğa dengesinin korunması ve doğal kaynakların korunmasına yönelik tüm uygulamalar otel işletmelerindeki sürdürülebilir uygulamaları gösteren boyutlar arasındadır. Bu anlamda Türkiye'de çevreye duyarlı konaklama tesisi olarak nitelendirilen otel işletmeleri güncel gelişmelerle birlikte sürdürülebilirlik çalışmalarını raporlamakta ve web sitelerinde çeşitli sürdürülebilirlik uygulamalarını paylaşmaktadırlar. Sürdürülebilirlik raporları arasında farklı boyutlara ve çalışmalara yer veren işletmelerin bir bölümü bu çalışmalarını güncel olarak web sitelerine yansıtmakta ve web sitelerindeki "sürdürülebilirlik" başlığı altında tüketicilerin ulaşa bilirliğine sunmaktadır. Web sitelerinin önemli bir dijital pazarlama aracı olduğu düşünüldüğünde, bu aracı güncel olarak kullanmak ve teknolojik gelişmelerle desteklenen bir sürdürülebilir politika oluşturmak bu politikaları daha kalıcı kılacaktır. Bu çalışmanın amacı Birleşmiş Milletlerin 2030 sürdürülebilir Kalkınma Hedefleri göz önünde bulundurularak Antalya destinasyonunda bulunan, beş yıldızlı ve çevre dostu otel işletmelerinin web sayfalarında yer alan sürdürülebilirlikle ilgili paylaşımlarını ve sürdürülebilirlik raporlarını incelemek ve sürdürülebilir turizm uygulamalarını web siteleri aracılığıyla belirlemek ve karşılaştırmalı bir analiz sunmaktır.

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1. Introduction

The concepts of sustainability and sustainable development were brought to the international platform for the first and the pure definition was made with the Brundtland Report in 1987 (Kuhlman & Farrington, 2010). In this report, it is explained that while meeting the needs of countries and societies today, the resources that will be transferred to future generations should also be considered and the consumption needs of future generations should also be considered. In this sense, in addition to its social dimension, many dimensions, including economic and environmental, have brought the concept of sustainability to an important point today (Bradley, 2007; Chowdhury, 2013; Colbert & Kurucz, 2007; Jovanović et al., 2018; Ordieres-Meré et al., 2020; Stuermer, 2014; Sullivan et al., 2018; Şeker, 2023, p.371). At the Rio Conference held by the United Nations in 1992, the Framework Convention on Climate Change, the Rio Declaration on Environment and Development, the Convention on Biological Diversity, and the Forest Declaration were created for sustainability.

Tourism has brought many negative effects due to unplanned development and growth. These effects are seen in the natural environment, socio-cultural life, and destinations (Choi & Sirakaya, 2006; Durovic & Lotrentjev, 2014; Hall & Lew, 1998; Mowfirth & Munt, 1998). Sustainable tourism is an approach accepted at national and international levels. In this sense, it has been accepted in many countries. As an approach, it is accepted as an approach that contributes to tourism in economic, social, cultural, and environmental dimensions. In this sense, implementing tourism with sustainable principles will provide a positive impact on local people, future generations, and visitor experiences, as well as long-term development (Durovic & Lotrentjev, 2014; Lozano-Oyola et al., 2012). At the same time, energy management support to this process with new technologies will have a great impact on economic and environmental development.

In the approach evaluated by the World Tourism Organization in 2009, there is a definition as "being clean, green, ethical and of high quality at all levels of the service chain". With the concept of smart destinations, it is stated that innovative technologies will take part in the future of tourism, and smart destinations use data-related resources such as big data and the Internet of Things (IoT), as well as smart and competitive tourism destinations; It has been defined that it will also create sustainable tourism destinations. (Atay et al., 2019; Çelik Çaylak, 2022, p. 51).

The first movements that initiated steps towards sustainability predicted that the natural environment limited growth and that social collapse would begin due to exceeding these limits (Meadows et al., 1972). Sustainable tourism can be explained as protecting the environment in the sense of finding an appropriate balance, sustainable economic development, and meeting the needs and expectations of tourists and local people (Hunter, 1997). In this sense, minimizing the negative effects of tourism and increasing its positive effects are among the goals and objectives (Atamhenwan, 2015).

Today's consumers care more about the impact of the products or services they choose on nature and the environment, and their tendency to prefer businesses that make efforts in this regard is increasing. Providing accurate and objective information or reports regarding sustainability on the web pages of hotel businesses can provide competitive and marketing advantages to businesses; it will also make sustainability efforts more visible.

The information contained in sustainability reports, which are generally prepared voluntarily, is not like financial reports. Sustainability reports are more qualitative and harder to measure. Moreover, it does not have a legal framework like financial reports. With sustainability reporting and sharing on web pages, tourism businesses make abstract issues concrete and help understand, manage, and summarize the activities, strategies, and impacts of sustainability developments of the business (Ekergil & Göde, 2017).

This study aims to examine sustainability applications within hotels in Antalya and to determine how much these practices are reflected on their web pages. Recently, there have been many studies on sustainability in tourism, but no studies have been found that examine sustainability reports or deal with web pages in terms of sustainability. In this sense, considering that web pages are a marketing purpose and tool, they are one of the important tools that reach customers directly and facilitate word-of-mouth communication. From this perspective, sharing sustainability-related information and reports on web pages will both ensure transparency and have a positive impact on consumers' preferences. At the same time, these effects may be reflected in other businesses and will be visible in terms of taking different practices as an example. There are 17 goals in the sustainable development principles of the United Nations, and this study was carried out to determine which of these practices the hotel businesses have implemented in their reports in terms of sustainability and how close they are to the 2030 Sustainable Development Goals.

2. Theoretical Framework

2.1. Literature Review

Addressing these topics at the business level within the framework of the United Nations' Sustainable Development principles is an institutional issue in the literature. sustainability (Signitzer & Prexl, 2007). While accepting that corporate growth and profitability are important for sustainability with the corporate sustainability approach. It brings businesses closer to caring about sustainable goals such as environmental protection and economic development (Ekergil & Göde, 2017, Wilson, 2003).

The literature review was conducted and it was determined that there were many studies about sustainability. Likewise, many content analysis studies examine web pages. However, the number of studies examining the sustainability information and sustainability reports that businesses share on their websites is very few. In this sense, almost no studies have been found. Objective preparation of sustainability reports, which currently lack standards, is one of the most important issues. In this context, an attempt has been made to examine which sustainability-related dimensions are affected by these reports, taking into account the United Nations Sustainable Development Goals.

Guix, Bonilla-Priego and Font (2018) examined the sustainability reports of 18 international hotel groups. As a result, it has been determined that the harmonization of

Table 1. Sustainable indicators

Main Themes	Sustainable Indicators
Protection of Natural Ecosystem	Protection of Valuable Natural Assets
Energy Management	Energy and Renewable Energy
Accessible Water and Management	Water Use and Water Saving
Waste Management	Recycle
Usage Intensity	Intensity of Tourist Use in Land Use
Visual Management of Infrastructure and Activities	Environmental Management Bodies

Source: *Ceylan, 2019, p. 339.*

stakeholders in the report content is important and contributes significantly to the accountability of hotels to their stakeholders. Ekergil and Göde (2017) in their study examined the sustainability studies of 10 hotels operating in Türkiye between 2014 and 2017, which published sustainability reporting on their official websites and conducted a document review. In this context, in the study, the compliance of hotels' sustainability reports with international standards was determined based on the G4 Sustainability Reporting Guide published by the Global Reporting Initiative (GRI) and analyses were made according to basic dimensions. Çavuş et al. (2021) tried to identify the practices in the sustainability reports published on the websites of four- and five-star hotels in Muğla and Antalya provinces. As a result, they concluded that hotel businesses focus more on environmentally focused activities, concentrate on saving energy and water, and work on recycling waste and reducing carbon emissions and chemical use. In another study, by Yılmaz and Bayrak Oğuz (2019), sustainability reports obtained from the web pages of 50 hotel businesses operating in Türkiye were analyzed by using the content analysis method, adhering to the National Reporting Initiative (GRI), one of the international reporting frameworks. In the research, a word cloud for sustainability reports was created. It has been determined that the most used words are in the environmental dimension.

2.2. Green Hotels and Themes Related to Natural Resources and Sustainable Energy Indicators

Green hotel management practices, which have an important place among environmental protection policies, were first introduced in 1993 by the Green Hotels Association for a purpose. For this purpose, it is an application put forward in the form of determining policies that bring together the goals of reducing waste and protecting destinations by saving energy and water in hotels in visited destinations. The application includes not only energy saving but also all savings aimed at protecting waste and the environment (Atay & Dilek, 2013; Green Hotel Association, 2023). Sustainability indicators of natural resources include indicators such as ecosystem protection, energy resources management, water resources management, waste management, environment, and pollution management. According to Durovic and Lotrentjev (2014), there are various sustainable indicators created within the main themes. In this context, various indicators are shown in the Table 1 (Ceylan, 2019, p. 339). Sustainable indicators, which are among the indicators of sustainable development, cover the management of all resources. In this sense, it will be possible for hotel businesses to be sustainable with energy resources if they manage these indicators. There are various

indicators related to natural resources. The consumption and energy patterns discussed in terms of economic indicators in the table compiled by Yıldırım and Öner (2010) are shown in the Table 2 (Ceylan, 2019, p. 338).

Solar energy is a renewable energy source that is easy to install and use, and also does not pollute the environment, and does not create hazardous waste. Solar energy is a form of radiation energy and occurs through the fusion process in the core of the sun, that is, the transformation of hydrogen gas into helium. The sun emits approximately 3.9×10^{26} W of power. A very small amount of this energy emitted from the sun reaches the earth. An average of 1.367 W of power falls on each square meter of the outer surface of the atmosphere. While it absorbs some of this radiation coming into the atmosphere, usually consisting of X-rays and ultraviolet rays, it reflects some of it. According to TÜİK (Turkish Statistical Institute) data, there are 11.6 million houses in Türkiye and 87% of them are determined as residential buildings, apart from residential buildings, buildings that can benefit from solar energy in roof systems include schools, hospitals, agricultural enterprises, elderly detached houses (secondary residences), factories, public buildings and hotels (Republic of Türkiye Ministry of Energy and Natural Resources, 2024). Solar energy systems include active systems (pumps are used to transfer water and heat), passive systems (water or heat occurs through natural conversion), and mass systems, that is, systems that heat the water tank directly with the sun, and agrivoltaic agriculture (Wikipedia, 2023). Agrivoltaic agriculture can be used to grow fruit and vegetable crops under solar panels (DS New Energy, 2023) and in this sense, solutions can be provided in terms of gastronomy tourism. It can be said that one of the important criteria for hotel buildings to be a green building is to benefit from solar energy.

When evaluated from the perspective of the accommodation sector in Türkiye, it is possible to reduce energy costs by using solar energy, especially in terms of creating green buildings. In this sense, there is more energy from solar energy due to the intense presence of the sun in regions such as the Southern regions and the Aegean Region, where tourism enterprises and 3S tourism facilities are concentrated. In this sense, considering that the total annual sunshine duration in Türkiye is 2640 hours, that is, 7.2 hours per day, it becomes clear that the energy potential is very high (Gümüş & Örgev, 2018, p. 80; Önal & Yarbay, 2010, p. 86).

Renewable energy is energy that can be obtained naturally and can self-renew countless times (International Energy Agency. Renewable energy sources include energies such as solar, geothermal and ocean hydrogen energy. In addition to the sustainability of these energies, they are also among the easiest features to find in every country and in all destinations. When considered in terms of environmental impacts, they have less environmental impacts than non-renewable energy resources, and when technical and economic problems are solved with the use of renewable energy resources, these resources may be the most important energy resources of the 21st century (Kumbur et al., 2005).

3. Methods

This study aims to examine the sustainability posts and reports

Table 2. Energy consumption and economic indicators

Economic Indicators		
Theme	**Subtheme**	**Indicator**
Consumption and Energy Patterns	Energy Consumption	* Annual energy consumption per person * Use rate of renewable energy resources * Energy use intensity
	Material Consumption	* Material usage intensity
	Waste Production and Consumption	* Recycling and reuse of waste * Management of radioactive waste

Source: *Ceylan, 2019, p. 338.*

on web pages as internet usage increases and web pages become an important digital marketing tool. An analysis was carried out on the websites of environmentally friendly five-star hotels in Antalya. Additionally, the study aims to achieve the following sub-goals:

- ➢ *To determine whether there is a special area related to sustainability on websites.*
- ➢ *To review sustainability reports on websites.*
- ➢ *To identify and compare the most and least applied sustainable approaches in five-star hotels.*

In the study, the contents of the websites of environmentally friendly and five-star hotels and the shared sustainability reports were analyzed. There are a wide variety of dimensions within the scope of sustainability and a detailed analysis was

carried out in the study, taking into account the dimensions of the United Nation's 2030 Sustainable Development Goals (United Nations, 2023). The hotels on the website of the General Directorate of Investment and Enterprises of the Ministry of Culture and Tourism (T.C. Kültür ve Turizm Bakanlığı Yatırım ve İşletmeler Genel Müdürlüğü, 2023) are filtered with five headings.

- ➢ Destination: *"Antalya"*
- ➢ District: *"All"*
- ➢ Type of Business: *"Hotels"*
- ➢ Star: *"Five star"*
- ➢ Environmentally Friendly: *"Yes"*

This consists of a total of 157 hotels and all of them were included in the study. Analyzes were made with the SPSS Statistics-21 program. Sustainable tourism policies, sustainability reports, and information on the web pages were examined in a total of 17 dimensions, and frequency analysis was performed on the data of hotels that do or do not include these dimensions.
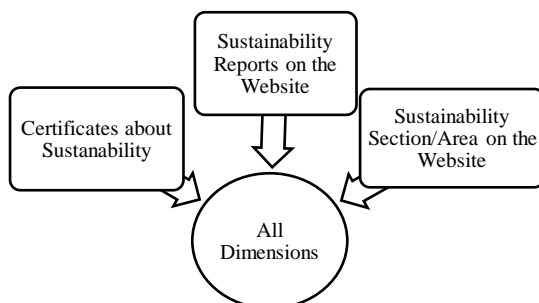
Figure 1. Website analysis stages and model
Source: *Created by the author.*

- ➢ Sustainability Report – There is a sustainability report on the website?
- ➢ Environmentally Friendly Hotel - Green Star – This certificate is available on the website or in the sustainability report?
- ➢ Blue Flag- This certificate is available on the website or in the sustainability report?
- ➢ Sustainable Tourism Certificate - This certificate is available on the website or in the sustainability report?
- ➢ Sustainable Team Information - This information is available on the website or in the sustainability report?
- ➢ Zero Waste Certificate - This certificate is available on the website or in the sustainability report?
- ➢ Green Key - This certificate is available on the website or in the sustainability report?
- ➢ Solar Energy- This information is available on the website or in the sustainability report?
- ➢ Sustainability Section/Area on the Website - Sustainability Policy Information – There is a section on the website?
- ➢ Sustainable Purchasing Policies - This information is available on the website or in the sustainability report?
- ➢ Recycling and Renewable Energy Information - This information is available on the website or in the sustainability report?
- ➢ Information on Energy Consumption and Saving Electricity, Natural Gas and Water - This information is available on the website or in the sustainability report?
- ➢ Information on Environment and Waste Management - This information is available on the website or in the sustainability report?
- ➢ Biodiversity Protection Policies - This information is available on the website or in the sustainability report?
- ➢ Local Environmental Protection Policies - This information is available on the website or in the sustainability report?
- ➢ Natural Life and Cultural Heritage Protection Policies- This information is available on the website or in the sustainability report?
- ➢ Carbon Footprint – Carbon Emission - This information is available on the website or in the sustainability report?

For sustainable practices, dimensions such as energy efficiency, water saving, environmentally friendly material selection, recycling, research, and development are included for accommodation businesses in line with the information needs of different stakeholders (Buckley, 1996). The web

pages and sustainability reports of all hotel businesses were examined in detail and an attempt was made to determine what information was included in the context of the determined keywords and features. Statistics-21 program was used to perform frequency measurements on which information was included and which information was not included in the entire sample examined, and in this way, it was tried to determine in which dimensions and under which headings more information was included (see the website analysis stages and model: Figure 1). This also provides a comparative analysis and provides information on the sustainability practices of hotels. In the study, Antalya destination, which is the destination with the highest number of hotel businesses, was selected. According to the environmentally friendly facility filter on the Ministry's website, the highest number of hotel facilities are located in Antalya and the websites of all five-star hotel businesses were included in the sample. In the study, it was examined whether there were sustainability reports on the website, certification information regarding sustainability, and whether there was a section on sustainability on the website, and all sub-dimensions were created in this way. Websites were examined and statistically analyzed within a

Table 3. Statistics of all environmentally friendly tourism businesses

City	Statistics of All Environmentally Friendly Tourism Businesses		
	Number of Businesses	Number of Rooms	Number of Beds
Adana	3	734	1472
Afyonkarahisar	4	1291	2688
Ankara	20	3411	6900
Antalya	225	89828	195501
Aydın	5	1827	3732
Balıkesir	1	121	244
Bolu	1	165	382
Bursa	6	945	1892
Çanakkale	2	18	38
Denizli	2	430	860
Erzurum	2	339	682
Eskişehir	4	309	612
Gaziantep	4	603	1210
Giresun	1	86	172
Hatay	2	349	698
İstanbul	60	13953	28267
İzmir	27	5343	11103
Karabük	1	124	248
Kayseri	2	449	900
Kocaeli	2	199	406
Konya	4	969	1964
Kütahya	1	121	242
Malatya	1	202	408
Mardin	1	162	324
Mersin	3	455	990
Muğla	46	11037	23679
Nevşehir	2	284	568
Ordu	3	153	306
Sakarya	1	291	586
Samsun	2	359	740
Sinop	1	41	82
Şanlıurfa	2	292	590
Tekirdağ	1	129	258
Trabzon	1	157	335
Yalova	1	48	96
Zonguldak	1	204	418
Total	445	135 428	289 593

Source: *T.C. Kültür ve Turizm Bakanlığı Yatırım ve İşletmeler Genel Müdürlüğü, 2023*

total of 17 dimensions. There are 225 businesses in total (see Table 3). 157 businesses were filtered as five-star and all were included in the study. In Türkiye, there is a scope for environmentally friendly accommodation facility dimensions within the following items (T.C. Kültür ve Turizm Bakanlığı Yatırım ve İşletmeler Genel Müdürlüğü, 2023):

- ➢ *"Water saving",*
- ➢ *"Increasing energy efficiency",*
- ➢ *"Reducing the consumption of environmentally harmful substances and the amount of waste",*
- ➢ *"Encouraging the use of renewable energy resources",*
- ➢ *"Accommodation businesses should be planned in an environmentally friendly manner starting from the investment phase",*
- ➢ *"The harmony of the tourist facility with the environment, environmentally beautifying arrangements and activities, ecological architecture",*
- ➢ *"Raising awareness about environmental awareness, providing training, and cooperating with relevant institutions and organizations",*
- ➢ *"It includes the Ministry's experiences on this subject since 1993, the opinions of relevant institutions and organizations, and the general EU criteria (Eco-label) on this subject."*

4. Results

Dimensions related to sustainability on the official websites of the hotels were examined both on the corporate websites and in the sustainability reports to determine which details the hotels included more. The official websites of a total of 157 five-star hotels were visited online, between November 2023- and January 2024, and the sustainability facilities, reports, and sustainable energy policies on the websites were examined. Content analysis of websites was carried out in a total of 17 dimensions to determine what information about sustainability the hotels shared on their websites (Table 4). In this sense, an attempt was made to determine what information hotels share about sustainability on their websites. Antalya was chosen as a sample and when the list of environmentally friendly accommodation facilities is examined; it is the destination with the most accommodation facilities and the destination with the highest potential in terms of solar energy. It was also examined whether the businesses that benefit from solar energy potential include these issues on their websites and what information a consumer can access regarding the sustainable policies of the business when he/she enters the website. The analyses were made with the SPSS Statistics-21 program and frequency analysis and percentage analyses were evaluated for the dimensions on the websites.

According to the Table 5, 41 five-star hotel businesses that include sustainability reports on their hotel websites were identified. This information was not found on the websites of 116 hotel businesses. When the formats of the sustainability reports were examined, it was determined that some of them were in the form of PowerPoint presentation files, some in the form of videos, and some in the form of Word files. Hotel businesses that submit sustainability reports generally include

Table 4. Statistics of all dimensions

		Eco-Friendly Hotel-Green Star Information	Blue Flag Informarion	Sustainable Tourism Certificate Information	Sustainability Team Information	Zero Waste Ceritficate Information
N	valid	11	31	25	2	12
	Missing	146	126	132	155	145

		Green Key	Solar Energy	Sustainability Report	Sustainability Area on the website - Sustainability Policy Information	Sustainable Purchasing Policy
	valid	13	7	41	74	34
	Missing	144	150	116	83	123

		Recycling and Renewable Energy Information	Energy Consumption and Saving Electricity Natural Gas Information	Information on Environment and Waste Management	Biodiversity Protection Policies	Local Environmental Protection Policy
	valid	17	46	45	8	18
	Missing	140	111	112	149	139

		Natural Life and Cultural Heritage Protection Policies	Carbon Footprint-Carbon Emission			
	valid	13	8			
	Missing	144	149			

Source: *Created by the author.*

sustainability reports for the last 2-3 years. Some of the dimensions evaluated in the study are the information included in the sustainability reports. All other dimensions, including information about personnel, especially energy consumption, and waste management, are included in the sustainability reports. Some sustainability reports explain what has been done within the scope of the United Nations' 2030 Sustainable Development Goals.

Among the websites of 157 five-star hotels, there are 11 hotels whose environmentally friendly and green star information can be accessed through their websites. This corresponds to approximately 7%. In this sense, since it is known that Antalya destination has more hotels with green stars, it has been evaluated that this information is not included on the websites of the hotels or is missing in this dimension. When the websites of 157 five-star hotels were examined, there were 19.7% of hotel websites contained. Blue Flag information. No such information was found on the websites of 80.3% of

hotels. There are 25 five-star hotels that put the Sustainable Tourism Certificate on their website, and this was determined as 15.9% of the websites of all hotels examined. An important dimension was identified within the websites of five-star hotels and 2 five-star hotels put the information of the sustainability team on their websites and added a hierarchical list of the people assigned (see Table 5).

According to the Table 6, among the websites of 157 five-star hotels, there are 12 five-star hotels that contain information on zero waste and zero waste certification, which is an important aspect of sustainability. There is no information about this could be found on the websites of 145 hotels, and it was determined that this information remained at a low rate in general on the websites. Among all hotels, 13 five-star environmentally friendly hotel businesses were identified that included "green key" information. The Mediterranean region is one of the most advantageous regions in Türkiye in terms of obtaining solar energy and solar energy can be used in hotels

Table 5. Dimensions-1

		Frequency	%	Valid %	Cumulative %
Sustainability Report					
valid	1.0	41	26.1	100.0	100.0
Missing	System	116	73.9		
Total		157	100.0		
Environmentally Friendly Hotel - Green Star					
valid		11	7.0	100.0	100.0
Missing		146	93.0		
Total		157	100.0		
Blue Flag					
valid		31	19.7	100.0	100.0
Missing		126	80.3		
Total		157	157	100.0	
Sustainable Tourism Certificate					
valid		25	15.9	100.0	100.0
Missing		132	84.1		
Total		157	100.0		
Sustainable Team Information					
valid		2	1.3	100.0	100.0
Missing		155	98.7		
Total		157	100.0		

Source: *Created by the author.*

Table 6. Dimensions-2

	Frequency	%	Valid %	Cumulative %
Zero-Waste Certificate				
valid 1.0	12	7.6	100.0	100.0
Missing System	145	92.4		
Total	157	100.0		
Green Key				
valid	13	8.3	100.0	100.0
Missing	144	91.7		
Total	157	100.0		
Solar Energy				
valid	7	4.5	100.0	100.0
Missing	150	95.5		
Total	157	100.0		
Sustainability Section/Area on the Website - Sustainability				
Policy Information				
valid	74	47.1	100.0	100.0
Missing	83	52.9		
Total	157	100.0		
Sustainable Purchasing Policies				
valid	34	21.7	100.0	100.0
Missing	123	78.3		
Total	157	100.0		

Source: *Created by the author.*

within the scope of sustainability studies. When the websites of hotel businesses were examined, only this information was found in the sustainability reports of only 7 hotels. On the websites of hotel businesses, 74 of the 157 hotel businesses have added their sustainability-related policies to their websites in a visible way; it also has a sub-tab called sustainability that directs you to sustainability practices with the help of a button. This tab is usually located at the bottom of the website. According to the data, this information is found on the websites of five-star hotels in 47.1% of cases. This data could not be accessed on the hotel's website for 52.9% of the time. In general, it can be said that half of this information is available on websites. There are 34 hotel businesses that have sustainable purchasing policy information on their websites, while 123 hotel businesses do not have this information on their websites.

See Table 7, information about renewable energy resources,

one of the dimensions of sustainability, is included on the websites or sustainability reports of only 17 hotel businesses. Information on energy consumption and savings (electricity, natural gas, and water) was available on the websites of 46 hotel businesses. All hotels covering this rate included this information only in the sustainability report they published. Environment and waste management is one of the most important dimensions of sustainability. In this sense, 45 hotel businesses benefit from this information on their websites; 112 hotel businesses did not include this information. In 71.3% of the hotels, no such information was found on their websites. Biodiversity protection policies were found on the websites of very few hotels. This rate was determined on the websites of 8 hotel businesses (%5.1), and such information was not found on the websites of 149 hotel businesses (%94.9).

According to the Table 8, there are 18 websites that include natural environment protection policies. There is no

Table 7. Dimensions-3

	Frequency	%	Valid %	Cumulative %
Recycling and Renewable Energy Information				
valid 1.0	17	10.8	100.0	100.0
Missing System	140	89.2		
Total	157	100.0		
Information on Energy Consumption and Saving Electricity,				
Natural Gas and Water				
valid	46	29.3	100.0	100.0
Missing	111	70.7		
Total	157	100.0		
Information on Environment and Waste Management				
valid	45	28.7	100.0	100.0
Missing	112	71.3		
Total	157	100.0		
Biodiversity Protection Policies				
valid	8	5.1	100.0	100.0
Missing	149	94.9		
Total	157	100.0		

Source: *Created by the author.*

information about this dimension on the other 139 hotels' websites. When the dimension of natural and cultural heritage protection policies is examined, this information is included on 13 hotel websites; It was determined that this information was not included on the websites of 144 hotels' websites. When websites were examined in terms of carbon footprint information; it was determined that only 8 of the hotel businesses' websites included this information. This information was not found on the websites of the other 149 hotels.

5. Conclusion and Discussion

The tourism industry is a sector that interacts with natural environmental systems in a macro approach from a local scale to a more global scale. While tourism, on the one hand, has a mission that assumes the responsibility of improving and maintaining environmental quality, on the other hand, it has the potential to cause excessive consumption of resources (Goodall & Stabler, 1997, pp. 279-302). Sustainability needs to be considered as a necessity. From this perspective, all stakeholders need information cooperation, and knowledge of all stakeholders is needed for tourism activities to be carried out sustainably (Kozak, 2014, p. 141).

been determined that some dimensions are missing in the data in sustainability reports. In line with the data in this study, which offers suggestions on the correct evaluation of this potential, especially in terms of energy consumption, solar energy, carbon footprint, biodiversity, tourism businesses and especially hotels can benefit from solar energy and renewable energy sources, and in this sense, the supports and support provided by the state. Many indicators for sustainability have been created over time, and these indicators also support economic sustainability. Establishing an effective and efficient waste management system, using renewable energy resources, and establishing systems that cause the least harm to the environment are some of these indicators. It has a position to be a leader in terms of renewable energy resources, and in this sense, when the necessary evaluations are made, it is possible to save energy and increase energy efficiency with renewable energy sources. In this sense, energy saving is necessary and by following technological developments, innovative technologies and renewable energies should support each other with a focus on Industry 4.0. Sustainable energy practices, solar energy practices, and their environmental impacts that will contribute to tourism and sustainable development are very important.

Table 8. Dimensions-4

		Frequency	%	Valid %	Cumulative %
Local Environmental Protection Policies					
valid	1.0	18	11.5	100.0	100.0
Missing	System	139	88.5		
Total		157	100.0		
Natural Life and Cultural Heritage Protection Policies					
valid		13	8.3	100.0	100.0
Missing		144	91.7		
Total		157	100.0		
Carbon Footprint – Carbon Emission					
valid		8	5.1	100.0	100.0
Missing		149	94.9		
Total		157	100.0		

Source: *Created by the author.*

Websites are like a map to implement and share sustainability policies. On the websites examined, it was determined that while some sustainability reports shared energy consumption practices, biodiversity, and cultural heritage practices in detail, some websites contained only very general information. Although some of this information is not specific to the hotel business, it has been found that it is general information about sustainability.

5.1. Practical Implications

Türkiye has great potential in terms of renewable energy sources, especially solar energy, and is in a very good position in terms of obtaining natural energy since these resources are unlimitedly renewable and inexhaustible. However, it is necessary to use and benefit more from the solar energy potential. In this sense, with the increase in studies on sustainability in recent years, the importance of this issue has increased, but it is still not at a sufficient level. At the same time, according to the information on the websites examined in the study, it was determined that the potential to benefit from solar energy is quite low. Businesses have started to add sustainability-related practices to their websites, but it has

It is thought that the study will contribute to the literature in the sense that there are no other studies examining the web pages of hotels in terms of sustainability and that sustainability reports are not like financial reports, but can provide an example in terms of examining these reports containing more qualitative data, and to show which sustainable practices hotel businesses use more. In this sense, there are very few studies about this example in the literature. In this sense, the "Environmentally Friendly" filter on the ministry's website was applied as a sample group, and the five-star hotels within this filter were studied.

5.2. Theoretical Implications

As a result of the study, similar to other studies on this subject, it is seen that sustainability reports include more environmentally related information. The number of businesses that added their sustainability reports to their websites is not very high (41 hotels). About half of the sample includes a sustainability-related button or sub-tab on their web pages. It is important for hotel businesses to develop these sections on their websites to be accessible to consumers, especially environmentally conscious consumers. It has been

determined that very few hotels have information on their websites on dimensions such as recyclable and renewable energy, biodiversity, protecting the natural environment, and carbon footprint. In this sense, more efforts and precautions are required.

It is also important to implement technical staff and technical teams that can turn this awareness into a mission. It has been observed that some sustainability reports contain an incompatible and ordinary order and that very general information is sufficient as if they were only for advertising purposes. Including numerical information on the dimensions examined in the study in these reports will increase the reliability of the business (For example, electricity consumption information, comparisons of previous years, numerical data on resource usage, etc.). It can be said that the study aims to provide suggestions to hotel businesses in the sector. In terms of ensuring sustainability in the tourism sector, the study is aimed to set an example in terms of contributing to hotel businesses and a sustainable management approach.

It has been determined that the information shared on websites is not sufficient in some hotel businesses. Considering that only 41 hotels in the sample shared sustainability reports on their websites, this number is also quite low. Considering innovation and technological developments within the scope of sustainable development principles, it is also very important to reflect sustainability applications on websites. Consumers' ability to access this information can affect their preferences and also provide an opportunity for competitive advantage. Businesses provide a competitive advantage in parallel with their cost advantage with the environmentally friendly and green applications they implement.

5.3. Limitations and Suggestions for Future Studies

Limitations of the study include choosing the Antalya destination and choosing only five-star hotels. At the same time, the "Environmentally Friendly" filter was applied on the Ministry's website, and the hotels listed there were examined. Acting with approaches that combine technology, innovation, and sustainability goals in line with the United Nations 2030 Sustainable Development Goals will provide many advantages for the accommodation businesses. They need to present these practices not only as an advertising purpose but also as objective qualitative data on their web pages and sustainability reports. In this sense, increasing the energy management practices they carry out, sharing these practices with the principle of transparency, improving sustainability reports in terms of practice, and increasing the number of good examples will set an example for future studies. For future studies, the web pages of all hotel businesses in Antalya or a different destination or different types of hotels and tourism industries can be examined. Since digital marketing elements are very important in hotel businesses and web pages are an important tool for this; it can be examined whether businesses use this information and reports on their web pages to express themselves in terms of sustainability.

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