

*O. H. LEVYTSKA***PECULIARITIES OF ECOLOGICALLY ORIENTED RECREATIONAL COMPLEXES OF EUROPE**

The demand for safe recreation conditions is growing every day. Therefore, hotels, lodges which acquire ecological characteristics, improving the interiors of the premises, the exterior of the territories, causing green areas and growing organic products, supporting the ideas of resource conservation and remediation of territories. The purpose of this article is to evaluate the most successful tourism eco-projects in Europe, to identify environmental criteria that attract vacationers and improve the quality of the environment, to evaluate the service, natural attraction and creativity of holiday destinations, to make a comparative description of hotels and resorts located in different natural areas. Service, proximity to nature and the satisfaction of visitors with interaction of nature, design of the exterior and interior, the availability of exclusive decor items, and non-standard leisure activities are the three important criteria for choosing a hotel or resort today. These three criteria were studied by the method of manual analysis of visitor reviews. Most often vacationers mention natural beauty, somewhat less often – service, and quite rarely – creativity in the design and organization of recreation. For the first time, the most successfully functioning ecological resorts in Europe are divided into groups by location and natural resources. The requirements for resorts that are popular among the visitors have been formed. The criteria of service, natural advantages and creativity in different groups are compared.

Keywords: wood; organic; green; natural; landscape.

*O. Г. ЛЕВИЦЬКА***ОСОБЛИВОСТІ ЕКОЛОГІЧНО ОРІЄНТОВАНИХ РЕКРЕАЦІЙНИХ КОМПЛЕКСІВ ЄВРОПИ**

Попит на безпечні умови відпочинку зростає з кожним днем. Тому готелі, лоджі набувають екологічних характеристик, покращуючи інтер'єри приміщень, екстер'єр, озеленюючи території та вирощуючи органічну продукцію, підтримуючи ідеї ресурсозбереження та оздоровлення територій. Мета цієї статті - оцінити найбільш успішні туристичні екопроекти в Європі, виявити екологічні критерії, що приваблюють відпочиваючих, та покращити якість довкілля, оцінити сервіс, природну привабливість та креативність місць відпочинку, провести порівняльний аналіз готелів та санаторіїв, розташованих у різних природних зонах. Сервіс, близькість до природи та задоволеність відвідувачів взаємодією з природою, дизайном екстер'єру та інтер'єру, наявністю ексклюзивних предметів декору, нестандартністю дозвілля – три важливі критерії вибору готелю чи курорту сьогодні. Ці три критерії було вивчено методом неавтоматизованого аналізу відгуків відвідувачів. Найчастіше відпочиваючі відзначають природну красу, трохи рідше – сервіс і дуже рідко – креативність у дизайні та організації відпочинку. Вперше найбільш успішно функціонуючі екологічні курорти Європи поділені на групи за розташуванням та природними ресурсами. Сформовано вимоги до курортів, які користуються популярністю у туристів. Порівнюються критерії сервісу, природних переваг та креативності у різних групах.

Ключові слова: деревина; органіка; зелений; природний; ландшафт.

Introduction. Quality rest is certainly associated with safety, environmental friendliness, memorable locations and organic food. Therefore, the existing principles of sustainability are being strengthened and new criteria are being appeared. Ecotourism is effectively developing as a successful destination, and tourists choose hotels and resorts that are equipped with green areas, water parks and swimming pools, fields where organic fruits and vegetables are grown, water areas with fresh fish and seafood. This is also evidenced by the work (Merli *et al.*, 2019) where it is indicated that the visitors like the environmental friendliness of hotels.

The task of the work was to identify the following characteristics of natural beauty, service quality and creativity in the organization of leisure and in the design of interiors and exteriors of resorts. These parameters can be decisive when choosing a resort.

Also, the task of the work is to compare the ratings given by visitors to hotels and resorts. It is important to determine how eco-resorts fit into the

concept of evaluating holiday destinations and what parameters should be strengthened. It is also important to determine what potential benefits eco-resorts have and how pleasant they are for visitors.

The implementation of eco-projects certainly requires compliance of some rules. In (Kostić *et al.*, 2019, Bulatovic, 2017) talking about the eco-technologies, environmental standards and the specific maintenance when designing and building an object.

In the interior, natural materials are often in demand, including decorative elements made from natural stone, clay, reeds, straw, etc. The predominance of plants in the room and on the territory of the resort ensures closeness to nature and leads to air purification. Often hotels that adhere to the principles of sustainability are financed or participated in sustainable projects such as planting forests, clearing protected areas, research to get rid of plastic, etc.

In articles (Alonso-Almeida *et al.*, 2016, García-Pozo *et al.*, 2015, García-Pozo *et al.*, 2016) is talking

about minimal use of natural resources (materials including energy and surface area) per unit output.

The scarcity and high price of natural resources, including energy resources, contribute to the development of technologies and equipment for the efficient use of fuel and electricity. In addition, alternative energy sources are widely considered. In articles (Alonso-Almeida et al., 2016, García-Pozo et al., 2015, García-Pozo et al., 2016) is also talking about minimal release of toxic substances. Combustion products of traditional and alternative fuels (oxides of carbon, nitrogen, sulfur compounds, methane, etc.) significantly affect the quality of atmospheric air. In articles (Levytska et al., 2021) compared emissions from the combustion of natural and industrial gases. Interestingly, when using alternative sources (industrial gases), emissions are comparable or lower than when burning conventional fuels. At the same time, alternative fuels can be waste that requires processing, or their cost is much lower, and their production is much more environmentally friendly compared to traditional fuels.

As stated in (Richards and Duif, 2018, Richards, 2020), the positive influence of local stakeholders, that can collaborate. Thus, producers of organic products can supply goods to restaurants, interior and exterior designers can work to improve the design of rooms and territory, environmentalists – to offer new technologies for waste processing, water purification (and engineering and construction companies - to ensure the installation and operation of these systems), engineers-robotics can offer automatic cleaning systems, creative waste bins, manufacturers of floor and wall coverings, varnishes, paints, furniture and decor elements will be encouraged to produce environmentally friendly products and possibly a unique products for a particular hotel or ecolodge. As stated in (Ardhala et al., 2016) creative industries and tourism sector are able to produce a new tourism destination when applied to a region. The presence of craft industries, including environmentally oriented ones (production of cheese, milk, jewelry made of natural stone, decorative elements, furniture made of cane and straw, wine, etc.) today attracts tourists. A modern person, as a rule, having high mental and physical mobility, is ready even on vacation to be dynamic and acquire new skills and knowledge.

It is significant that the cooperation between consumers, tourists and designers is developing widely. This is confirmed in (Sanders and Stappers, 2008) where it is said that design solutions are changing when adding new areas of collective creativity. Mutual work leads to a clear understanding of the needs of the market, a response to new challenges and ensuring high competitiveness of the created projects.

Today, research in the field of eco-tourism and eco-hospitality is relevant and necessary. More and more people are choosing eco-friendly destinations for their holidays. However, the issues of the importance of natural potential in the construction of eco-complexes are rarely considered, and the issues of creativity in the organization of eco-resorts are practically not raised in

the scientific literature. These important characteristics, together with the hospitality rating of eco-friendly resorts, have been explored in this article.

Methodology

Materials. In order to determine the materials and components of interiors and exteriors, the eco-concept of the resort, activities, natural attractions, the presence or absence of organic food, photos, presentations and information materials from official resort websites were used. Attention was paid to furniture, decorative elements, and decoration of the rooms, which were made using natural raw materials. Floral elements framed the rooms and exteriors stood out. The eco-friendly concept of the resort with careful use of natural resources was welcomed.

Environmental criteria for resorts. The criteria service, nature, creativity were studied by the method of manual analysis of visitor reviews on a popular resource <https://www.google.com/travel/hotels/>. Manual analysis is accepted because some ideas cannot be measured using numerical methods and software products. The data was selected based on the frequency of mentions and positive assessments of the service, nature and creativity in the reviews on the specified resource. Each positive criterion in the review was scored as 1. If there were both positive and negative characteristics of the criterion in one review (for example, “the rooms were cleaned daily and the staff was friendly, but the waiter did not serve us on time”), the criterion in the review was evaluated as 0.5. Next, the percentage of mentions of the criterion (K) among the submitted reviews was calculated using the formula:

$$K = \frac{(n_1 + 0.5n_2)}{N} 100\% \quad (1)$$

In Eq. 1, n_1 is the number of reviews with a positive characteristic of the criterion, n_2 is the number of reviews with a semi-positive characteristic of the criterion, N is the total number of reviews.

The sample of reviews consisted of 50 reviews (or all submitted if there were less than 50 reviews during the specified period) for the expired 3 years.

Analytics of visitor ratings. Also, the overall ratings of the hotel or resort, obtained from the service <https://www.google.com/travel/hotels/> were compared. Indicative for the study was the comparison of assessments of hotels and resorts located in different natural zones and in the area of different natural attractions: mountains and forests of northern Europe, mountainous and forest areas of natural zones of broad-leaved forests, hard-leaved evergreen forests and bushes and altitudinal zonation, as well as coastal areas of the Mediterranean basin.

Results and discussion

Landscapes of Northern Europe. Snow-covered forests, clear starry skies and northern lights attract tourists to the northern regions of Europe. Hotels and resorts located in natural ecosystems, often far from noisy industrial cities, allow to take a break from office bustle and breathe clean air. The resorts also offer outdoor activities such as fishing, husky and reindeer

safaris, skiing, etc. In the best way, the northern flavor and restrained landscapes emphasize the interior in the Scandinavian style or in the style of minimalism.

Manshausen hotel area in Norway (<https://www.manshausen.no/>, retrieved July 4, 2023) occupies 14 acres. Tourists and bloggers sometimes attribute the "Eco" status to the complex, although there is no such position on the official website. The thing is that the hotel is located on a unique mountainous location beyond the Arctic Circle, and the rooms overlook on the picturesque landscape. It is the unique nature that visitors praise, as well as creative solutions - glass cabins for a complete overview of natural beauties and the bright night sky. Increasing the area of the glazed surface and, accordingly, the amount of natural light are among the environmentally friendly criteria. Woodworking walls, wooden furniture and natural materials create an eco-friendly interior. Scandinavian minimalism in the interior and the minimalist exterior of the cabins emphasize the beauties of nature. The hotel offers various activities such as kayaking, fishing, hiking the mountains, rowing a boat etc. and excursions. The territorial location (Fig. 1) with a high probability will allow the development of craft production or the cultivation of organic products by the type of city farming.

Designed at the foot of a glacier in a mountainous area, the Svart hotel, even at the stage of its construction, stands out among its competitors, attracting the press and future tourists. Representatives of Svart Hotel, Norway, declare the environmental friendliness and energy efficiency of the project (<https://svart.no/>, retrieved July 4, 2023). Energy consumption is provided by solar energy and energy optimization. In this way, the creators of the hotel are struggling with growing carbon emissions when using traditional fuels. In summer, visitors can see the polar nights, and in winter, the northern lights. The hotel building is designed as a circle, the rooms are with huge panoramic windows on the fjord, which will reduce the use of fluorescent lamps and provide an overview of the northern landscape.



Figure 1 - Screenshot of the hotel's official website Manshausen with a photograph of the location of administrative buildings and the room fund (<https://www.manshausen.no/>, retrieved July 4, 2023)

Øyna Cultural Landscape hotel, Norway, located in the picturesque landscape of the northern fjord, and the roofs of the buildings are covered with a green carpet of grass (<https://www.oyna.no/english>, retrieved July 4, 2023). The walls and ceiling of the rooms are made of wood, and the view of the fjord opens through wide panoramic windows. There are indoor plants in the rooms.

Kakslauttanen Arctic Resort offers a unique opportunity to see the Northern Lights. To do this, the hotel is equipped with special glass rooms, sensors are working, announcing the beginning of a natural phenomenon. The complex is located near the Urho Kekkonen National Park. As indicated on the website (<https://www.kakslauttanen.fi/>, retrieved July 4, 2023), the air is fresh here, and it is possible to drink from springs and lakes. It is natural ecosystems and unique natural processes that bring the hotel closer to the status of environmental friendliness. In addition, entertainment is built on closeness to nature and communication with animals. So, in winter, the hotel offers husky and reindeer safaris, horseback riding, ice fishing on Lake Inari, ski activities, icebreaker cruise and so on (<https://www.kakslauttanen.fi/>, retrieved July 4, 2023). In summer there are horse safaris, Lemmenjoki cruises, hiking, mountain biking, picking mushrooms and berries and so on (<https://www.kakslauttanen.fi/>, retrieved July 4, 2023). The interior of the rooms is made using wood, there is even wooden furniture. The hotel is close to the status of a lodge, and partial city farming which will help to meet the needs of restaurants in some vegetables and herbs can also be interesting. Any craft production adapted to the peculiarities of the northern nature will be able to carry out both an entertaining function and meet the needs of the resort.

The frequency of positive mentions of the beauties of nature the quality of service and creativity in the reviews of tourists shown on the Fig. 2.

All hotels have more positive reviews than negative ones. In particular, reviews that emphasize nature or creativity, but also name certain shortcomings, were defined as partially (half) positive feedback according to a certain criterion. E.g., a tourist likes panoramic views, but it is too bright in the room at night, which is why he must wear a sleep mask. Tourists often mention organized ways of entertainment in their reviews and, despite their sometime high cost, evaluate them positively. There is also an opposite assessment of the same situation. E.g., glass of Glass Igloos in Kakslauttanen Arctic Resort covered with ice and snow, which worsens the view, there is no heating system, at the same time, frozen snowflakes on a cold window draw truly amazing and unique pictures.

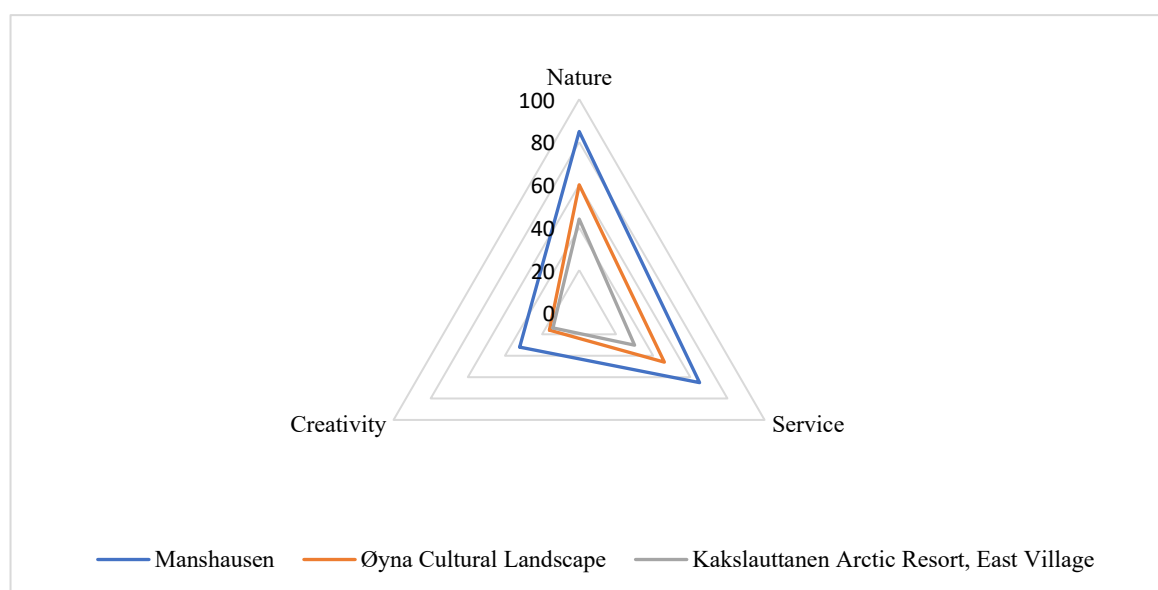


Figure 2 - The frequency of positive mentions of the beauties of nature the quality of service and creativity in the reviews of tourists, % (Landscapes of Northern Europe)

In general, hotels and complexes located in the North of Europe, where you can watch the Northern Lights, have the most references to natural beauties. It is also important to note that hotels offer transparent rooms and pods that allow you to observe the northern sky around the clock.

Mountain and Forest Areas. Visitors are attracted by hotels situated high in the mountains or in forest ecosystems. In this subsection, the natural zones of broad-leaved forests, hard-leaved evergreen forests and bushes and altitudinal zones were considered. Here it is possible to get away from the bustle of the city and feel the unity with nature. Designers try to integrate buildings and structures into natural systems as much as possible. Natural materials are chosen, laconic shapes and colors which are close to natural – green, sand color, brown, white (in snow-capped mountains). Resorts offer hiking, including mountain routes are being developed.

Whitepod hotel located high in the Swiss Alps, and from the transparent domed rooms offer an unforgettable view of the snow-capped mountains (Fig. 3b). The hotel supports a number of environmental initiatives, including limiting lighting in the evening to ensure a comfortable environment for guests and reduce the impact on the environment, and increases the awareness of visitors about the local flora and fauna. An interesting solution is the adaptation of color schemes to the season, so the pods are white in winter and green in summer. This is very comfortable for the local fauna, because buildings merge with the environment and animals practically do not notice objects that are unusual for natural systems (Fig. 3a). The restriction of transport, which certainly has a positive effect on air quality, obliges tourists to move independently from the check-in counter to their pod. The heating system uses wood as a

renewable resource. The hotel provides activities such as husky sledding, running, cycling, skiing. An interesting solution was chosen for the interior of the Forest suite – a forest growing indoors was created (<https://whitepod.com/>, retrieved July 6, 2023).

Teapot Lane Couples Glamping (Ireland) (<https://www.glampingireland.ie/>, retrieved July 6, 2023) offers a holiday as close to nature as possible. Rooms are equipped with modern wood-burning glass

stoves. There are chickens and other animals in free range. The resort operates noise reduction from 23.00.

The camp puts forward environmentally friendly requirements for guests such as limiting noise in the evenings, cars remain in the parking lot (exceptional cases are loading and unloading), which provides clean air. Also, they suggest not to take a lot of disposable plastic, use appropriate trash cans. The territory is green, with a huge number of trees and flowers, there are no building tiles, natural paths are laid.

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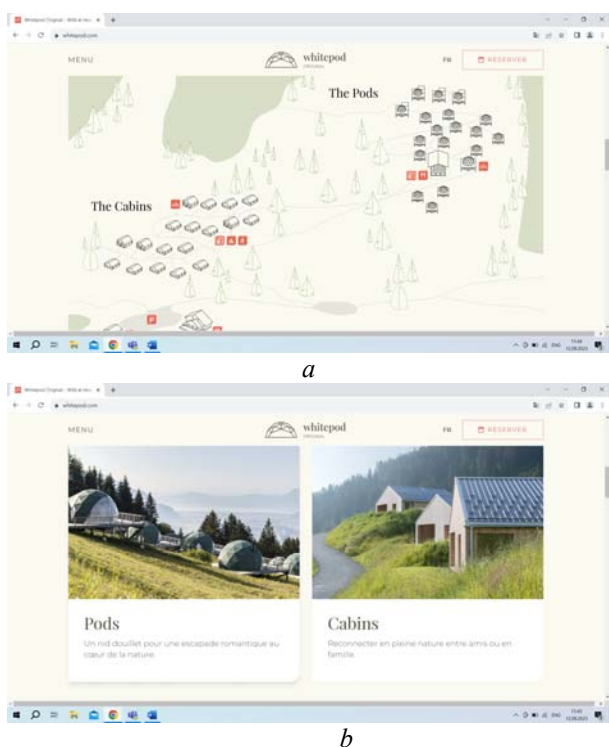


Figure 3 - Screenshots of the official website of the Whitepod hotel: *a* – the location of the Pods and the Cabins; *b* – illustration of the Pods and the Cabins (<https://whitepod.com/>, retrieved July 6, 2023)

A Casas Cueva del Tío Tobas hotel (<https://www.cuevastiotobas.com/>, retrieved July 6, 2023) was organized in the worked-out mine caves of Spain. The cave complex is barely visible under the trees and thick layer of tall grass. The cave rooms are made as authentic as possible, the walls and ceilings are minimally processed, the furniture is made from natural materials. Caves provide heat and sound insulation, which contribute to a comfortable, secluded rest. Among the activities are skiing, landscape walks. The frequency of positive mentions of the beauties of nature the quality of service and creativity in the reviews of tourists shown on the Fig. 4.

Interestingly, the largest number of references to the beauty of nature in the reviews has a hotel located in the Swiss Alps. Hotels located near mountains and forests offer excellent service.

Coastal Territories. In this subsection, the coastal areas of the Mediterranean Sea basin of the natural zone of hardwood evergreen forests and bushes were considered. The coastal hotels of the Greek islands of Mykonos and Santorini are attractive. They immerse visitors in the natural environment of the Mediterranean caves, offering a modest, but certainly authentic Mediterranean interior with almost unfinished walls and ceilings, austere furniture and color schemes close to marine ecosystems.

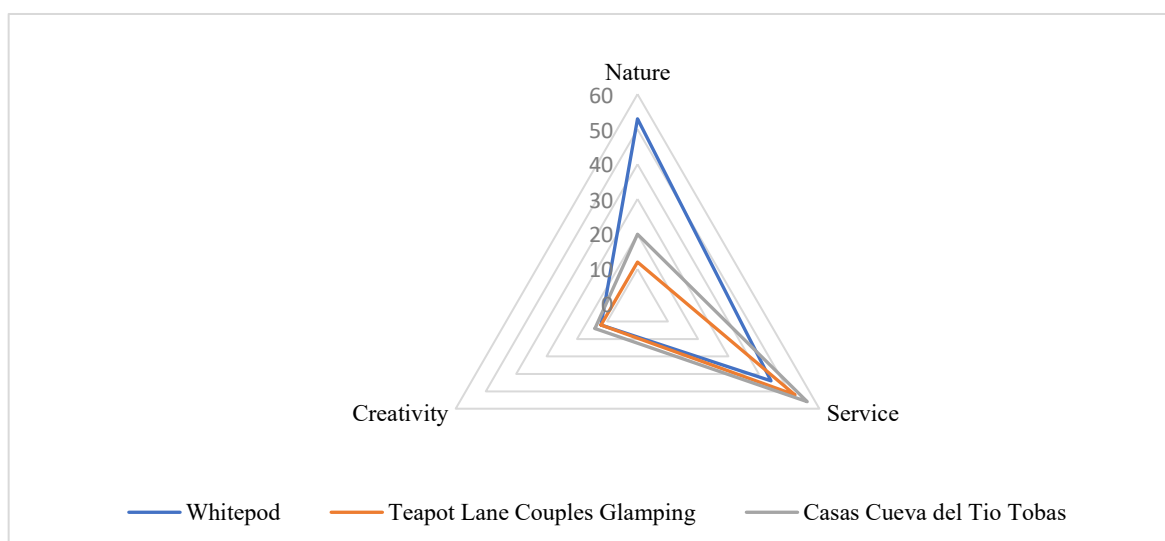


Figure 4 - The frequency of positive mentions of the beauties of nature the quality of service and creativity in the reviews of tourists, % (Mountain and Forest Areas)

Cocoon Cave Suites Boutique Hotel is one of such resorts (<https://cocoonsuites.com/>, retrieved July 7, 2023). Natural materials, wood furniture as close as possible to natural colors look neat and elegant. Environmental friendliness is manifested even in small things such as wooden trays, wooden loungers, and glassware because the hotel is moving away from the use of plastic. The private outdoor areas of the hotel suites offer stunning views of the volcano, the Aegean Sea and

the famous Santorini sunsets. The hotel offers an organic breakfast with organic local products, fresh juices, fresh fruit, jams, honey and Greek yogurt. The exterior is not loaded, personal areas have enough space and a swimming pool.

Resorts and spas close to the sea offer maximum service and have huge competition. Green spaces and plants connect visitors to nature, provide shade on hot

days and improve air quality. Therefore, such an eco-initiative is useful and attractive.

Contessina Suites & Spa is a luxury boutique hotel of the island of Zakynthos, immersed in vegetation. The exterior is made using natural building materials and fabrics. The pools are surrounded by greenery. It surprises the plants attached by the root system to the surface of the balcony wall. Ampelous plants unobtrusively enclose personal terraces with pools.

The hotel is within walking distance of the Mediterranean Sea, while at the same time slightly removed from the coastline, providing guests with a secluded, luxurious and personalized holiday. (<https://contessinacollection.com/>, retrieved July 7, 2023). The rooms are made with quality materials in discreet shades. In the interior of the corridors, spa-rooms, the indoor pool and restaurants, greenery is generously used. A significant amount of green plants used in the interiors and exterior of the resort has a positive effect on air quality by absorbing carbon dioxide.

Outlying from coastal areas and resort islands resorts also attract visitors. It is possible to avoid crowded streets and huge hotels filled with noisy tourists. Instead, a tourist can find small cozy hotels located in rural areas and taste organic food from local products.

Sa Rota d'en Palerm hotel supports many serious eco-initiatives. 15 kVA photovoltaic system for generating own electricity, using motion sensor lights in both shared areas and the main house, centralised energy consumption control system, turns off the air conditioning whenever the windows or doors of the property are opened, ceiling fans which are encouraged for using instead of the air conditioning, using of low energy lamps provide energy savings (<https://sa-rota.com/>, retrieved July 7, 2023). The waste separation system, eco-efficient recommendations for guests, the use of rainwater from roofs for watering plants and other hotel needs also contribute to the solution of both local and global environmental problems. Natural materials and fabrics are used in the exterior and interiors. The room immerses the guest in the natural environment as much as possible: the walls, stylized as brickwork, the legs of the lamps resemble a tree trunk. The hotel provides a unique opportunity to enjoy the rural sceneries of the resort island of Mallorca. In Sa Rota and the surrounding area, you will have the opportunity to enjoy authentic cuisine with wholesome local products and wine. The frequency of positive mentions of the beauties of nature the quality of service and creativity in the reviews of tourists shown on the Fig. 5.

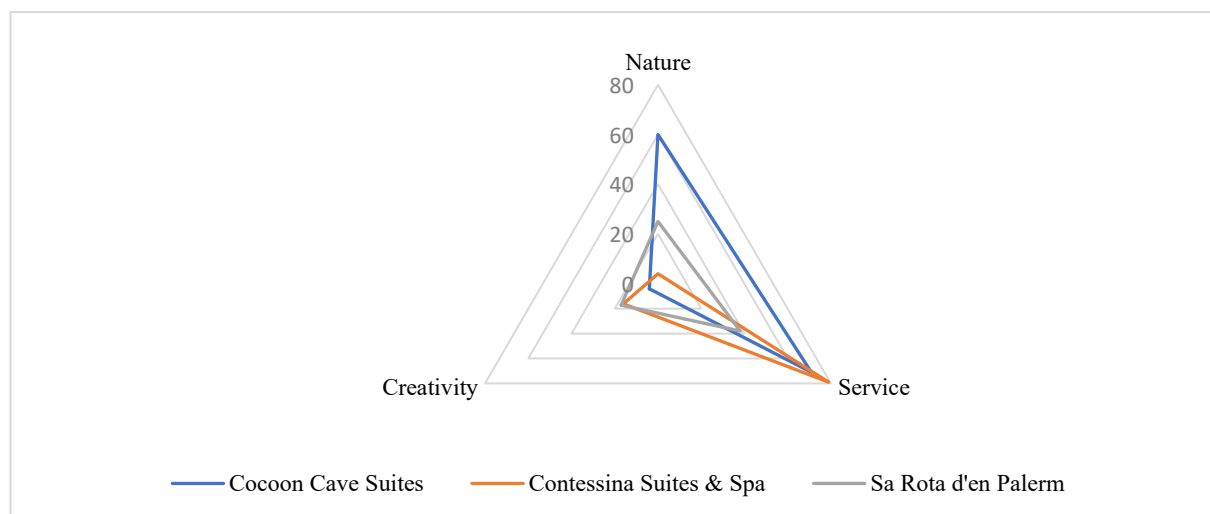


Figure 5 - The frequency of positive mentions of the beauties of nature the quality of service and creativity in the reviews of tourists, % (Coastal Territories)

The hotel located near the volcano on the island of Santorini has the largest number of references to the beauty of the caldera. At the same time, the rooms have their own areas with pools and a view of the volcano, which inspires visitors and makes it possible to admire the sea. Hotels located on resort islands and in coastal areas demonstrate a high level of service.

Analytics of visitor ratings. The first thing the evaluation of the beauties of nature the quality of service and creativity in the reviews of tourists charts show is the advantage of natural beauty. People often come to

the area to see the unique fjords, Northern Lights, untouched forests. These are the places to choose for the construction of new resorts. Visitors are also demanding when evaluating the staff. Politeness and delicious food create a picture of the resort, so the tourist draws conclusions whether he wants to return. The information that some tourists lack the variety of vegan food was not included in the graphic material.

When cf. the charts in Fig. 3, 5, 7 it becomes clear that the high quality of service was more often mentioned when evaluating hotels and resorts located in

mountainous and forest landscapes (natural zones of broad-leaved forests, hardwood evergreen forests and bushes and altitudinal zones), as well as hotels and resorts of coastal areas of the Mediterranean basin (natural zone of hardwood evergreen forests and bushes). Frequent mention of natural beauties (more than 40% of reviews) was revealed when evaluating reviews of hotels located in northern Europe, as well as in hotels and resorts located in the Swiss Alps and on the island of Santorini.

Creativity is rarely mentioned. This is typical for all considered objects. It is surprising that the really creative hotel buildings (the glass cube and the roofs of buildings covered with green grass) attract tourists from

the pages of information websites and social networks and encourage them to choose this particular hotel, but do not evoke more vivid emotions during the rest than the contemplation of natural landscapes and communication with the staff. In part, tourists get the expected picture, but natural beauties can be even more convincing than in the photo, give more emotions. In addition, the growing variety of creative buildings may saturate the tourist and not evoke the same emotions as perhaps 30-50 years ago. General ratings for hotels and resorts according to (<https://www.google.com/travel/hotels/>, retrieved July 13, 2023) shown on the Fig. 6.

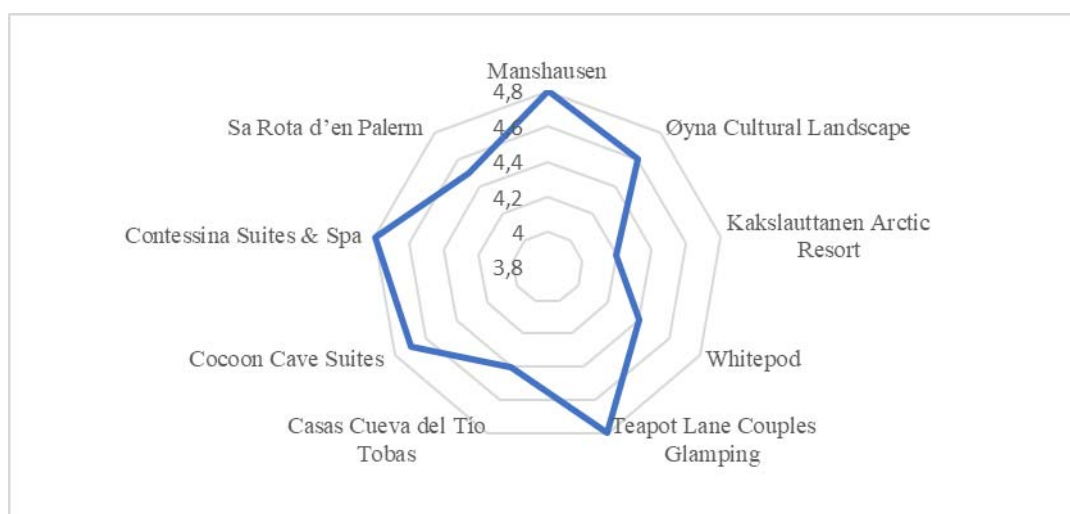


Figure 6 - European recreation complexes ratings

Fig. 6 shows that all the reviewed hotels and resorts have got the high points (from 4.2 to 4.8). In each group there are hotels and resorts that have got 4.8 points. In the group of northern hotels and resorts, the lowest point was 4.2, in the group of hotels and resorts located in mountainous and forest landscapes (natural areas of broad-leaved forests, hard-leaved evergreen forests and bushes and altitudinal zones) – 4.4 (2 hotels), in the group of coastal hotels and resorts – 4.5. Nevertheless, resorts are developing, new projects are appearing, such as Svart Hotel, Norway. Consumer demand and interest in sustainable hotels and complexes is growing. This is confirmed by the reasoning and some recommendations to the administrations of the resorts in the reviews.

Conclusions. Summing up, it should be noted that many of the objects discussed above declare their environmental friendliness and implement relevant eco-initiatives. Some hotels have a high potential for the development of eco-technologies. Eco-initiatives are manifested in landscaping areas, the use of natural materials in interiors and exteriors, the use of organic food, resource conservation (often energy conservation), and the rejection of non-degradable plastic. Our findings indicate that people want to relax near unique and picturesque places. They are willing to pay for an

extraordinary view from their room or terrace. Designers, in turn, try to bring people as close as possible to nature, designing transparent pods, rooms with panoramic windows, terraces overlooking the sights. Leisure organizers provide communication with animals such as horseback riding, husky and deer safaris. Our findings also indicate that most often vacationers mention natural beauty, somewhat less often – service, and quite rarely – creativity in the design and organization of recreation. However, there is a high probability that the choice of the hotel is made taking into account the interesting design solutions in the design of rooms and the implementation of exterior projects.

The process of greening of hotels and resorts is developing. And if there is a growing interest in such resorts among visitors, then the ongoing initiatives will help to preserve the natural identity of ecosystems and allow a person to penetrate safely into the untouched systems of forests, mountains, coastal areas. This gives a huge quantity of emotions to people and attracts the society to the problems of environmental protection.

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