

Ecological Innovations in Hotel Companies: A Case Study of Poland

Krzysztof Sala

University of the National Education Commission, Institute of Law, Economics and Administration,
Krakow, Poland

krzysztof.sala@up.krakow.pl

Abstract: Entrepreneurship is one of the key pillars of the modern market economy. The most important attributes of entrepreneurship include innovation. According to many economists, most of the economic growth of developed countries should now be linked to the application and implementation of innovation. Among many types of innovations, ecological innovations (eco-innovations) deserve special attention. Ecological innovations contribute to the reduction of operating costs, increase in competitive advantage and facilitate entry into new markets. At the same time, they have a positive impact on the natural environment. The examples of eco-innovations are also increasingly often found in hotel companies. The aim of the publication is to discuss the current examples of the most significant ecological innovations in hotel enterprises. The article considers the significant impact of ecological innovations on the activities of this type of enterprises. In order to achieve the objectives of the publication, the Polish hotel market was taken into account. The article presents the following research thesis: Environmental innovations are an increasingly important element influencing the operation of hotel enterprises in Poland. However, there is still little awareness of them among guests. The article was written on the basis of books studies, monographs, magazines and netographic information. Methodology of research carried out for the needs of the work. To identify and analyze ecological innovations in hotels in Poland, as well as for the purposes of achieving the goals of the work, two methods of collecting primary research material were used. The first one is based on the analysis of existing data, including the analysis of guest opinions on the booking portal and literary criticism. The second one consisted of a diagnostic survey in which a non-standardized interview was used as a research technique on a deliberately selected group of hotel owners and managers from all over Poland, who have decided to introduce ecological innovations on the premises of their facilities. Interviews were conducted in January-February 2024. The interview did not take into account objects that temporarily suspended their activity. The results of the research positively verify theses.

Keywords: Economy, Hotel, Client, Creativity, Environmental protection, Entrepreneurship

1. Introduction

Entrepreneurship is one of the key pillars of the modern market economy. The most important attributes of entrepreneurship include innovation. According to many economists, most of the economic growth of developed countries should now be linked to the application and implementation of innovation. Among many types of innovations, ecological innovations (eco-innovations) deserve special attention. Ecological innovations contribute to the reduction of operating costs, increase in competitive advantage and facilitate entry into new markets. At the same time, they have a positive impact on the natural environment. The examples of eco-innovations are also increasingly often found in hotel companies.

The aim of the publication is to discuss current examples of the most significant ecological innovations in hotel enterprises. The article considers the significant impact of ecological innovations on the activities of this type of enterprises. This article focused on the Polish hotel market to meet the objectives of the publication.

The article presents the following research thesis: Environmental innovations are an increasingly important element influencing the operation of hotel enterprises in Poland. However, there is still little awareness of them among guests. The article was written on the basis of books studies, monographs, magazines and netographic information.

Methodology of research carried out for the needs of the work. To identify and analyze ecological innovations in hotels in Poland, as well as for the purposes of achieving the goals of the work, two methods of collecting primary research material were used. The first one is based on the analysis of existing data, including the analysis of guest opinions on the booking portal and literary criticism. The second one consisted of a diagnostic survey in which a non-standardized interview was used as a research technique on a deliberately selected group of hotel owners and managers from all over Poland, who have decided to introduce ecological innovations on the premises of their facilities. Interviews were conducted in January-February 2024. The interview did not take into account objects that temporarily suspended their activity. The results of the research positively verify theses.

2. The Concept of Innovation and Ecological Innovation

Many academics have contributed to the topic of innovation. Austrian economist J. Schumpeter believed that companies must be innovative in order to remain competitive on the market (Schumpeter, 1947). Another

authority in this area, P. Drucker, believed that a non-innovation company inevitably would grow old and deteriorate. (Drucker 2003).

Innovativeness can be understood as the introduction to the market of a new or significantly improved product, good or service or the implementation in the enterprise of a new or significantly improved process. Innovations are the result of technological development, new combinations of existing technologies and the use of modern knowledge desired by the company (Wozniak, 2006). For the purposes of research and comparative analysis, it is recommended to use the classification of innovations proposed by OECD specialists, contained in the so-called Oslo Manual. The Oslo Manual distinguishes innovation (OECD, 2008):

- product,
- process,
- organizational,
- marketing.

In addition to the types of innovation mentioned by the Oslo Manual, the concept of ecological innovation (eco-innovation) is increasingly found in literature. Ecological innovation can be defined as “innovations, which consist of new or changed processes, practices, systems and products that use environmental resources, at the same time, they contribute to its protection” (Jarża, 2013). According to the classic definition, eco-innovation is a “new product that provides value for the customer and for business, while significantly reducing the negative impact on the environment” (James, 2001). According to another definition, eco-innovation should be understood as “intentional conduct characterized by entrepreneurship, including the stage of product design and integrated management of it during its life cycle, which contributes to the pro-ecological modernisation of industrial-age societies by taking environmental concerns into account when developing products and related processes. Eco-innovation leads to integrated solutions to reduce resource and energy inputs while improving product and service quality. Technological innovation is one of the ways of eco-innovation” (Carley, Spapens, 2000). For some authors, innovation means “any new forms of action aimed at significant and visible progress towards the goal of sustainable development, by reducing environmental impact or achieving greater efficiency and responsibility in the use of resources, including energy” (Prystrom, 2013). In turn, according to the authors of another definition, eco-innovations consist of new or modified processes, techniques, practices, systems and products that eliminate or reduce harmful effects on the environment (Kemp, Andersen, Butter, 2004).

In Poland, eco-innovation was defined comprehensively only in 2009 by the Central Statistical Office (GUS). This definition defines eco-innovations as “innovations that bring environmental benefits, as a new or significantly improved product (article or service), process, marketing or organizational method, or, which bring environmental benefits compared to alternatives” (GUS, 2010).

At the European level, defining the concept of eco-innovation has also been addressed by, inter alia, the European Commission (EC), the Organisation for Economic Co-operation and Development (OECD) and Eurostat. The European Commission defines eco-innovation as “a form of innovation, the purpose of which is to make significant and demonstrable progress towards achieving the sustainable development goals by reducing environmental impact or achieving a more efficient and responsible use of natural resources including energy” (https://commission.europa.eu/research-and-innovation_pl)

The theories of eco-innovation can and even should be considered in a narrow and broad perspective. The broad approach to eco-innovation concerns, on the one hand, solutions from the company's activities and institutional and social solutions; on the other hand, it is a prerequisite for sustainable development, increased social welfare and improved quality of life. The aim of eco-innovation, in a broad perspective, is to provide a sustainable competitive advantage for the enterprise in economic terms without harming the quality of the natural environment or in economic terms with minimal damage to this environment with full responsibility to society. They are narrowed down and are not integrated into the entire activity of the enterprise (Przychodzień, 2015).

The primary objective of eco-innovation should therefore be considered as environmental benefits, i.e., reduction of the negative impact of economic activity on the natural environment by reducing energy intensity, reduction in the use of natural resources or the emission of harmful substances (Ottman, Stafford, Hartman, 2006). Therefore, eco-innovation is such an innovation that seeks, on the one hand, to reduce the burden on the environment; and on the other, to achieve a certain environmental performance. Ecological innovations implement a policy of reducing pressure on the environment, using pro-ecological solutions. An eco-innovative solution is one that is innovative in relation to the most modern solution. Therefore, the paper assumes that eco-innovations include the production and application of new products, services, processes, and, systems and

procedures to meet human needs and ensure a better quality of life while minimising the consumption of natural resources and the emission of pollutants into the environment per unit of product or service over the entire life cycle compared to with alternative solutions (Kemp, Pearson, 2007).

Ecological innovation depends on many different factors and should be considered in a multi-faceted dimensions. The main factor contributing to their development are legal regulations, while other factors related to market conditions as well as technological capabilities of companies also play an important role. In addition, savings achieved through the implementation of environmental innovations are important factors. Eco-innovations are also strongly correlated with product and process innovations, and their implementation is influenced by the functioning environmental management systems, as well as their level and quality.

3. Ecological Innovation in Global Hospitality

Due to its size, the hotel industry is one of the most environmentally friendly sectors of tourism. On average, per 1 hotel room, between 160 kg and 200 kg of carbon dioxide are produced per year. However, the water consumption is from 170 to 400 liters per guest per 1 day for a 5-star hotel. Hotels generate an average of 1 kg of waste per 1 guest per 1 hotel day (Fatoki, 2019). Considering these facts, pro-environmental behaviour should be regarded as necessary to be implemented at various levels of the facility's operation (Firlej, Spychalska, 2015).

Pro-ecological measures in the global hotel industry, especially in the context of contemporary environmental issues, are not only a necessity, but an important tool for increasing the competitiveness of a facility and its offer in an increasingly competitive market. Analysing a variety of sources, both academic articles and promotional material from a number of hotels, it is possible to identify many interesting and often original initiatives or ideas. (Bugdol, Puciato, Boris, 2019).

Noteworthy is the fact that progress in eco-innovation is largely a natural consequence of fungible trends in the global economy, including the escalating popularity of ecotourism. In addition to the changes in the means by which tourists travel, their mindset has also evolved. UNWTO research indicates that 87% of tourists in the world want to travel sustainably. Additionally, 33% revealed that ecotourism consists in rational selection of the place of their stay, including primarily the right hotel (<https://www.national-geographic.pl/traveler/artykul/7-najbardziej-ekologicznych-hoteli-na-ziemi-mamy-zdjecia>).

As in the case of other areas of the economy, here too, the supply side responds to changes from the demand side, modifying its activities in the field of ecological innovation. Individual activities that are part of ecological innovation have been used in the hotel industry for years. The most important of them can be:

- Perlaters mounted in taps (water saving up to several dozen percent),
- Minibars with high energy class without freon release,
- LED lighting that uses 75% less energy and emits the same amount of heat,,
- Energy-efficient household and rtv equipment throughout the facility,
- Encouraging not to change towels or bed linen without the express wishes of the guests.

In addition to these activities, which in their own way fit into ecological innovation, many more sublime examples of activities around the world can be also found. Nowadays, more and more hotels are built in accordance with the principles of ecology or apply very advanced ecological innovations (Baker, Davis, Weaver 2014).

For the purposes of this article, it is worth giving a few examples. The advanced eco-innovation Brooklyn Bridge Hotel in the USA is LEED Gold certified and is equipped with state-of-the-art, energy-saving heating and cooling systems, LED lighting control thermostats, and, HVAC systems with energy recovery and advanced monitoring. Approximately 25% of the hotel's roof is occupied by green areas with garden beds overgrown with trees and shrubs that work diligently to produce oxygen, absorb carbon dioxide from the atmosphere and reduce the urban heat island effect. The hotel is distinguished by having a water recovery system that collects rainwater and practically uses it to irrigate the park. Additionally, the facility actively conducts educational campaigns for the implementation of pro-ecological activities, such as public transport, promotion of plant diet, the principles of good recycling, and restrictions on the use of plastic in everyday life and environmental education of others (<https://www.1hotels.com/brooklyn-bridge/sustainability>).

Another example is the Butiquehotel Stadthalle in Vienna. The facility offers its guests a rest on the lavender roof and tasting of organic honey produced on the site. The hotel promotes ecological transport by rewarding the guests arriving at the hotel by train or bicycle with a discount of 10% on renting a room. By not placing minibars in rooms, the hotel saves 21,024 kg of CO₂ per room. The object segregates 100% garbage. Photovoltaic

panels used in the hotel allow to produce own, clean electricity throughout the year. Solar panels provide the hotel with hot water. Eco-friendly shower heads, LED lighting and standby devices greatly reduce water and energy consumption. (<https://www.hotelstadthalle.at/en/boutiquehotel/green-heart-vienna.html>).

Another example is the Hotel Soneva Fushi, located on Kunfunadhoo Island Baa Atoll in the Maldives. The hotel uses renewable energy sources such as solar energy and has its own ecological gardens that supply restaurants with fresh products. The resort has its own glass factory, where recycled glass is processed into handmade items, and even a recycling center where guests can learn how to manage their own waste. The hotel has established its own Soneva Foundation, which supports the development of the projects that have a positive impact on the environment, society and the economy. Wherever possible, the Soneva Foundation applies the principles of impact investing in an effort to recoup its investments by financing carbon dioxide emissions, which in turn will be used in the projects, to help extend the reach and benefits for more families. (<https://soneva.com/foundation/>). Examples of other hotels that are most advanced in implementing eco-innovation are shown in Table 1.

Table 1: Examples of hotels that most advanced implement ecological innovations in 2024

Hotel name	Location	Characteristics
Hi Hotel Eco Spa & Beach ****	Nice, France	Using recycled paper, organic paints, safe cleaners and organic food
Campi ya Kanzi ****	Mtito Andei, Kenya	Using solar panels, solar boilers, promoting eco-tourism with respect for the Maasai culture
Hoshinoya Karuizawa ****	Karuizawa, Japan	Own hydroelectric power plant operating for the needs of the hotel, the use of renewable energy
Crosby Street Hotel *****	New York, USA	Eco-friendly building materials brick, stone, glass. The vegetable garden providing ingredients for the menu of the local restaurant
Magdas Hotel ****	Vienna, Austria	Using recycled furniture, offering beer from local breweries
Ritz Carlton *****	Charlotte, USA	Using a green roof with garden and hives. Production of own herbs and honey used in the hotel kitchen. Hotel staff wearing clothes made from recycled plastic bottles

<https://sznyt.pl/2019/08/12/8-ekologicznych-hoteli-ktore-wskazuja-kierunek-rozwoju-turystyki/>.

<https://www.national-geographic.pl/traveler/artkul/7-najbardziej-ekologicznych-hoteli-na-ziemi-mamy-zdjecia>.

4. Ecological Innovation in Hotels in Poland

Polish hospitality industry strives to keep up with global trends in innovation, including ecological innovation. However, the use of eco-innovation is not yet common among Polish hotels. This is evidenced by the limited amount of compact and netographic data describing ecological innovations in the domestic hotel industry. The analysis of the domestic hotel industry in terms of ecological innovation allows to identify approximately 20 facilities (for a total number of over 2,600 hotels), which are described in the media and widely considered by experts to be ecological. Only half of this group clearly informs on their websites about the eco-innovations used, and only three such facilities have ecological certificates. The same group consists of the properties entirely constructed in accordance with ecological principles. Only two facilities have the word eco in their name. Analysing the opinions of the guests of these hotels posted on the booking portal since the beginning of 2024, the environmental novelties and innovations used were not subject to wider feedback.

The most common cases are these in which individual eco-innovation solutions are used on a different scale in hotels of different categorisation and character (historic hotels, chain hotels). (Sala, 2021).

One of the most outstanding ecological facilities in Poland is the Arlamow Hotel. Extensive information on this can be found on the hotel's website itself. The hotel prides itself on its comprehensive approach to environmental measures, notable among which are its own CHP plant with trigeneration technology, the use of

a food waste composting machine that transforms food waste by heat into pre-compost used in the CHP plant to generate energy, available water dispensers helping to save around 3,000 plastic bottles per year, the replacement of disposable paper towels in the toilets with reusable cotton towels in rolls. In addition, the hotel conducts educational activities of an ecological nature addressed to guests. As part of it, tree planting, cleaning of the land, ecological games for children take place, and as part of the Holistic Mice package, the promotion of a healthy and active lifestyle takes place (<https://www.arlamow.pl/hotel-ekologiczny>).

Located in Kolobrzeg, the Aquarius Hotel Spa & Wellness makes high use of ecological innovations, branding itself on its website as eco-friendly. The design of the individual elements facilitated ecological operations right from the building phase. The facility uses glass, returnable water bottles and biodegradable beverage tubes. The hotel consistently replaces paper flyers with electronic informants on hotel television. In addition, the facility encourages drinking tap water and actively participates in ecological campaigns, including recycling campaigns (<https://www.aquariusspa.pl/pl/hotel-spa-nad-morzem/hotel-przyjazny-srodowisku/>).

The Eco Tatry Hotel already in its name suggests ecological solutions, which is confirmed on the site of the facility and its slow life philosophy. The hotel is based on 4 pillars: Nature, Ecology, Silence, Health. The hotel stands out from the others with its own eco-initiatives, the use of solar collectors, environmentally friendly heating, the implementation of recycling. The property also prides itself on using natural materials for the construction of the cottages (<https://www.ecotatry-hotel.pl/hotel-koscielisko-o-nas/>).

Opened in 2017, Radisson Blu Resort in Swinoujście is the first 5-star hotel in Poland designed and built from scratch in accordance with the guidelines of the ecological LEED certificate. During the LEED certification process, all the elements of sustainable construction are taken into account, such as: location and type of land intended for investment, energy and water consumption, quality of the internal environment, type of materials used, and, innovativeness. One of the many solutions used in this hotel is the use of rainwater to power parts of the toilet (<https://enjoyyourstay.pl/hotele-ekologiczne/>). The examples of other hotels in Poland that show eco-innovation are presented in Table 2.

Table 2: Examples of ecological innovators among hotels in Poland in 2024

Hotel name	Location	Characteristics
Hotel St Bruno ****	Giżycko	Elimination of the use of typical plastic products. Encouraging the use of tap water instead of bottled water for guests to drink. Use for heating the building of heat pumps, reducing water consumption and the use of LED lighting. Application of the zero waste principle
Uroczysko 7 Stawów ****	Gola Dzierżoniowska	Own heat pumps and biological treatment plant. A grey water system that eliminates drinking water for activities that do not require it. Growing our own herbs and vegetables, used in the dishes of the local restaurant
Herbarium Hotel & Spa ****	ChomiąŜa Szlachecka	Own heat pumps, the use of natural herbs in gastronomy, limiting the use of paper in the area of marketing, the use of QR codes, offering ionized water in glass bottles
Hotel Dębowy Biowellness & SPA ***	Bielawa	The use of organic products - honey from local apiary, herbs, wines, milk, chocolate, as well as coffee grounds. Use of fruits, vegetables and herbs from the hotel garden and products purchased from local suppliers
Klekotki Spa & Resort ***	Klekotki, Skowrony	Use of own sewage treatment plant, hydroelectric power plant, solar collectors, heat pumps and water treatment plants. Used organic laundry detergents, serving food-based products from

Hotel name	Location	Characteristics
		local suppliers and the nearby organic vegetable and herb garden
Hotel Bast ***	Inowrocław	Using glass packaging and withdrawing from plastic. Using own vegetables for hotel gastronomy. Having own wildlife rehabilitation center
Trystian Hotel & Spa ****	Kąty Rybackie	Air conditioning based on chilled water unit, the use of water foaming caps in taps and shower heads and high-quality dishwashers. Use of intelligent electricity management
Bukowy Park Hotel Medical Spa ****	Polanica Zdrój	Roof gardens, which reduce the need for heating energy, and are also used to install solar collectors, from which renewable energy is used to heat water. The use of intelligent energy management systems, including, inter alia, a heat recovery system from mechanical ventilation or energy-saving bulbs

Source: Own elaboration.

The most popular ecological innovations used in hotels in Poland include:

- Solutions for saving electricity, water and heating,
- Promoting organic food based on the production of own, ecological products,
- Removing plastic items from the hotel space.

In the context of the above theoretical considerations, as well as the case study analysis of various hotel facilities from the world and Poland, an examination of the approach to green operations on the Polish hotel market was thought to be appropriate. In March 2024, in-depth interviews were conducted with a deliberately selected group of hotel owners and managers, which are recognized in the media as hotels implementing ecological innovations.

E. Blazejczak, marketing and public relations manager of Herbarium Hotel & Spa believes that *“the ecological innovations used in the hotel today are its important asset and significant added value. Modern energy solutions in particular can bring significant savings in an era of rising inflation. However, ecological innovations themselves are not yet the main reason for choosing a hotel as a destination, and guests learn about them during their stay. The task of the hotel is therefore to educate guests about the valorization of ecological innovations. There are also no guest reviews for eco-innovations on the booking portal after the stay”*. J. Szczygłowska, the owner of the Bast Hotel, is of the opinion *“that ecological innovations are an element of building a competitive advantage of the hotel and a way to reduce the costs of its operation. The guests themselves are consumers and are not guided by the environmental rationale of the facility when choosing it. They become acquainted with it during their stay. They also do not comment on this fact on the booking portal.”* And in turn. K. Michalowska, the manager at Klekotki Spa & Resort is of the opinion that *“the applied ecological innovations in her hotel are an important criterion for choosing a hotel for some guests. However, guests rarely comment on eco-innovations after their stay.”* The manager of the guests’ experience of the St. Bruno K. Świdorski Hotel argues that *“some types of eco-innovation, such as electric vehicle charging stations, are particularly important in the hotel's operations, especially for businessmen. In general, however, guests rarely show interest in pro-ecological attitudes. Encouraging to reduce the use of towels or paper raises resistance. Paper straws are considered impractical.”* A. Polomska from Trystian Hotel & Spa believes that *“eco-innovations are a showcase of a given hotel, proving its progressiveness. However, hotel guests are not yet ecologically aware. The process of changing the awareness will gradually progress. Hotel guests benefit from ecological novelties available on site and familiarise themselves with them. This is especially true for older people. The youngest guests, in turn, are already much more aware of the valorization of ecological solutions.”* K. Sochaj, the director of the Hotel Debowy Biowellness & SPA, *“appreciates the importance of eco-innovation in a modern hotel, whose aim is to increase the well-being of guests.”* At the same time, however, he believes that hotel guests do not pay attention to ecological innovation. *“We should also not exaggerate the introduction of too radical pro-ecological solutions in hotels, eliminating (as it already happens in Austria) televisions from rooms and access to wi-fi. Hotel guests are*

still used to the services of smart tv.” J. Wilczynska, the manager of Bukowy Park Hotel Medical Spa, claims that “environmental innovation contributes both to the benefits of reducing costs, as well as has a positive impact on marketing and visitor interest.” The guests of her hotel pay more and more attention to the ecological aspects of the hotel, without commenting on them on the booking portals. According to E. Nadolska, general manager of the Uroczysko Siedmiu Stawów Hotel, “ecological innovation is playing a growing role in the hotel industry in Poland. Guests more and more often pay attention to eco-innovations used in the places of their stays. This hotel tries to educate its guests by placing information in rooms about its environmental policy, including in particular the practice of cleaning rooms every third day. The hotel intends to continue to introduce new ecological innovations in order to meet market trends. The introduction of photovoltaic panels is planned. Among the already functioning ecological innovations, guests pay the most attention to charging stations for electric cars. Shaping the approach of guests to ecological issues facilitates the use of the booking portal, which selects objects in terms of sustainable travel or access to charging stations for electric vehicles”.

5. Conclusion

Ecological innovations are an increasingly important element affecting the functioning of hotel enterprises in Poland, although they are not yet widely used. Not all owners or managers are convinced of its valorization for their hotels. The number of eco-friendly inowators among the total number of domestic hotels is still small. A characteristic element is the fact that ecological innovation in Poland is not the domain of only luxury chain hotels, but also independent facilities. Ecological innovation in Polish hotels has its own specificity. The use of ecological innovations in the field of heating (heat pumps, photovoltaic panels, solar collectors, modern air conditioning), lighting (LED technology) dominates, water management (water saving and purification equipment) or thermal insulation (green roofs). Such solutions can bring significant savings in operating costs of facilities and the level of prices of stays, which affects the profitability of the operation. Many hotels in Poland equate ecological innovation with promoting the principles of healthy eating based on the production and promotion of their own vegetables, fruits, herbs and honeys. Moreover, such activities contribute to the increase in profits of individual facilities from the sale of these products. A smaller number of hotels publish information about their pro-ecological activity on the websites. Only in isolated cases do hotels use the term eco in the parts of their names. These facts prove that ecological innovation is not yet of colossal importance in the field of marketing. Additionally, it is important to realise that hotel guests are not sufficiently aware of the benefits of eco-innovations, which translates into their pro-environmental behaviour and post-stay opinions. Relatively few guests attach importance to the environmental performance of a facility when making a booking. Nor do all customers see the point of using it. Thus, hotels can act as educators in this regard for their guests, especially the older generation.

Considering the changing economic conditions, the seeking modernity, the emergence of new hotels and the ongoing evolution in ecological attitudes, it seems appropriate to undertake further research into ecological innovations in the national and global hotel industry.

References

- Baker M, Davis E., Weaver P. (2014) Eco-friendly Attitudes, Barriers to Participation, and Differences in Behavior at Green Hotels, “Cornell Hospitality Quarterly”, Vol. 55(1), pp 89-99.
- Bugdol M., Puciato D., Borys T. (2019) Zachowania prośrodowiskowe w hotelach w kontekście zrównoważonego rozwoju turystyki – bariery i rekomendacje dla dalszych badań, „Problemy Ekorozwoju”, Vol. 14, No. 2, pp 157-170.
- Carley, M., Spapens, P. (2000) Dzielenie się światem. Instytut na rzecz Ekorozwoju, Białystok–Warszawa, pp 157.
- GUS, 2010. Działalność innowacyjna przedsiębiorstw 2006–2009. GUS, Warszawa, pp 48.
- Drucker, P. (2003) The Practise of Management, Wydawnictwo MT Biznes, Warszawa, pp 39.
- Fatoki, O. (2019) Hotel Employees’ Pro-Environmental Behaviour: Effect of Leadership Behaviour, Institutional Support and Workplace Spirituality, “Sustainability”, Vol. 25, Iss. 4, pp 1-15.
- Firlej K., Spychalska B. (2015) Wybrane uwarunkowania rozwoju branży hotelarskiej w Polsce, „Roczniki Ekonomiczne Kujawsko-Pomorskiej Szkoły Wyższej w Bydgoszczy”, No. 8, pp 202-221.
- https://commission.europa.eu/research-and-innovation_pl
- <https://www.national-geographic.pl/traveler/arttykul/7-najbardziej-ekologicznych-hoteli-na-ziemi-mamy-zdjecia>
- <https://www.1hotels.com/brooklyn-bridge/sustainability>
- <https://www.hotelstadthalle.at/en/boutiquehotel/green-heart-vienna.html>
- <https://soneva.com/foundation/>
- <https://sznyt.pl/2019/08/12/8-ekologicznych-hoteli-ktore-wskazuja-kierunek-rozwoju-turystyki/>
- <https://www.national-geographic.pl/traveler/arttykul/7-najbardziej-ekologicznych-hoteli-na-ziemi-mamy-zdjecia>
- <https://www.arlamow.pl/hotel-ekologiczny/>
- <https://www.aquariusspa.pl/pl/hotel-spa-nad-morzem/hotel-przyjazny-srodowisku/>

<https://www.ecotatry-hotel.pl/hotel-koscielisko-o-nas/>

<https://enjoyyourstay.pl/hotele-ekologiczne/>

- James P. (2001) Toward sustainable bussines? W: M. Charter, U. Tischner (ed.), Sustainable Solution. Greenleaf Publishing, Sheffield, pp 77–97.
- Jarża, S. (2013) Innowacje w procesach produkcji a środowisko. W: Bajdur W.M., Kulczycka J.(red.), Innowacje technologiczne procesów produkcyjnych w ochronie środowiska. Politechnika Częstochowska, Wydział Zarządzania, Częstochowa, pp 10.
- Kemp, R., Andersen, M., Butter, M. (2004) Background Report about Strategies for Eco-innovation. Report for VROM, Maastricht.
- Kemp, R., Pearson, P. (2007) Final report MEI project about measuring eco-innovation. UMMERIT, Maastricht, pp 7.
- OECD (2008) Podręcznik Oslo. Zasady gromadzenia i interpretacji danych dotyczących innowacji. Wydanie trzecie. Organizacja Współpracy Gospodarczej i Rozwoju, Departament Strategii i Rozwoju Nauki, Warszawa.
- Ottman, J., Stafford, E., Hartman, C., (2006) Avoiding green marketing myopia: Ways to improve consumer appeal for environmentally preferable products. Environment: Science and Policy for Sustainable Developmnet, 48, pp 22–36.
- Prystrom, J. (2013) Innowacje ekologiczne a ochrona środowiska wobec wyzwań XXI wieku na przykładzie strategii Unii Europejskiej. Ekonomia a środowisko, 44(1), pp 81–90.
- Przychodzień, J. (2015) Ekoinnowacje w przedsiębiorstwie. Zarządzanie, pomiar i wpływy na wyniki finansowe. Wydawnictwo CeDeWu, Warszawa, pp 45.
- Sala K. (2021) Hotelarstwo unikatowe. Uwarunkowania rozwoju. Wydawnictwo Uniwersytetu Pedagogicznego w Krakowie, Kraków, pp 133.
- Schumpeter, J. A. (1947) Creative response in economic history, Journal of Economic History. 7 (2), pp. 149–159.
- Woźniak, L. (2006) Innowacje ekologiczne w rolnictwie i przetwórstwie rolno-spożywczym oraz na obszarach wiejskich. W: L. Woźniak, J. Krupa, J. Grzesik (ed.), Innowacje ekologiczne w rozwoju społeczno-gospodarczym. Wydawnictwo Wyższej Szkoły Informatyki i Zarządzania, Rzeszów, pp 5.