

# Sustainable Entrepreneurship in Hospitality: Financial Viability of Green Investment Projects

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## Abstract

This paper examines the viability of green investment projects in the hospitality sector, highlighting the role of sustainable entrepreneurship as a response to the growing demand for eco-friendly practices. The main objective of this paper is to research how entrepreneurs can structure businesses that integrate sustainability into hotel construction, operation and management. The methodology employed was based on a literature review covering Sustainable Development Goals (ESG) criteria, financial incentives and empirical examples of sustainable hospitality, complemented by the analysis of case studies and financial projections. Classical project evaluation tools, such as the Net Present Value (NPV) and the Internal Rate of Return (IRR) were used to assess the economic viability and benefits of sustainable practices. The research results suggest that the adoption of green practices, combined with access to tax incentives and subsidies, contributes to the competitiveness and profitability in hospitality. In addition, it was found that sustainability plays as a competitive differentiator, promoting greater customer loyalty. This study offers practical recommendations for entrepreneurs who wish to be optimize their operations, while coping with the demands of more sustainable markets, integrating innovation and environmental responsibility.

**Keywords:** Sustainability, Entrepreneurship, Green Hospitality, Economic Viability, Sustainable Development Goals (ESG).

## Introduction

The hospitality sector has undergone significant transformation in recent decades, driven by changes in consumer behaviour and the increase in environmental regulations. Growing awareness of climate issues and the pressure for a low-carbon economy have led governments, companies, and individuals to adopt more sustainable practices. In this context, sustainable entrepreneurship emerges as a strategic approach to addressing the challenges and seizing the opportunities associated with the transition to a greener future. Hospitality, as a resource-intensive sector, plays a crucial role in this transformation. The high consumption of energy, water, and other natural resources, as well as the genera-

tion of waste and carbon emissions, places hotels at the forefront of environmental responsibility. The implementation of sustainable practices, such as the use of green technologies, optimization of energy efficiency, sustainable waste management, and the adoption of eco-friendly materials, is not merely an ethical imperative but also an operational and competitive necessity.

Moreover, the demand for sustainable accommodations has increased significantly. More informed and discerning consumers are seeking hospitality experiences that reflect their environmental values, creating a new market for entrepreneurs willing to innovate. This phenomenon is accompanied by public policies that

promote sustainable development, such as community funds, subsidies, and tax incentives for green projects, making sustainability not only an ethical advantage but also an economic one.

The development of sustainable hotels requires a multidimensional approach that integrates sustainability from the project's conception to its operation. This involves not only environmental planning but also a rigorous analysis of economic and financial viability, considering factors such as the initial cost of green technologies, long-term savings, and available incentives [1-3]. For entrepreneurs, the challenge lies in balancing the need for significant initial investments with the assurance of competitive financial returns.

Thus, this study is set within a context where sustainability, innovation, and financial viability intersect as essential pillars for the future of hospitality. By exploring these aspects, the article aims to contribute to the debate and provide practical recommendations for entrepreneurs who wish to combine environmental responsibility with economically viable business strategies.

### **Literature Review**

A study by Orsiolli and Nobre (2016), highlights the importance of sustainable entrepreneurship as a tool to integrate stakeholders in creating value for sustainable development. The authors argue that the hospitality sector, due to its complex supply chain, presents vast opportunities for sustainability practices, particularly in collaborating with suppliers to reduce environmental impacts. This article provides a theoretical foundation for understanding how entrepreneurs can structure business models that reconcile economic objectives with environmental and social responsibilities.

Through an analysis based on Web of Science, Andrade-Valbuena et al. (2022) present a comprehensive overview of sustainable entrepreneurship in the tourism and hospitality sector, identifying trends, challenges, and opportunities in the adoption of sustainable practices. This research emphasizes the importance of integrating the Sustainable Development Goals (SDGs) into the strategic planning of hotels, underlining that sustainability is increasingly a requirement in the global market.

De Lange and Dodds (2017) explore the role of social entrepreneurship in promoting sustainable tourism. This study highlights that entrepreneurs can adopt sustainable practices, such as energy efficiency and waste management, not only as a response to regulatory demands but also as an opportunity to transform their businesses into platforms for positive impact. The analysis demonstrates that sustainable tourism can be promoted to create differentiated experiences, foster customer loyalty, and strengthen the reputation of hospitality brands.

The feasibility of photovoltaic systems in hotels is investigated by Al-Zoubi et al. (2021), who present a case study of the Cedars Hotel in Jordan. The analysis reveals that the implementation of green technologies can generate significant savings and reduce the carbon footprint of enterprises. This research offers a practical perspective on how investing in renewable technologies can be an effective strategy to enhance the financial and environmental viability of hotels. On the other hand, Halil et al. (2016), performed an analysis of the economic feasibility of sustainable

construction projects. The research emphasizes that while the initial costs of implementing green practices can be high, the long-term benefits, such as operational savings and increased attractiveness to investors, significantly outweigh the investments. Others, as Floričić (2020), examined sustainable solutions in the hospitality industry, and within the competitiveness context of green hotels. These types of analyses are particularly relevant to the hospitality sector, where businesses need to economically justify their sustainability decisions.

Governmental and corporate incentives for the development of sustainable hotel buildings are analysed by Sloan et al. (2010). This research underscores that the existence of public policies and financing programs aimed at sustainability has a direct impact on the feasibility of new projects. Additionally, it highlights the importance of entrepreneurs understanding and leveraging these incentives to strengthen their business models.

The effectiveness of sustainable marketing strategies in the hospitality sector is addressed by Yu et al. (2024). The research demonstrates that incentives such as green rewards can increase customers' intentions to engage in sustainable consumption. This research reinforces the idea that sustainability should not merely be an operational practice but also a central component of hotels' communication and market positioning strategies.

Aleixo (2023) focuses on the implementation of ESG practices in small and medium enterprises in the hospitality sector. The analysis highlights the benefits of integrating environmental, social, and governance criteria into operations, ranging from reducing operational costs to strengthening corporate reputation. This article provides practical insights for entrepreneurs who wish to adopt a management model aligned with contemporary market demands.

Finally, Alonso-Almeida and Álvarez-Gil (2018) explore green entrepreneurship in the tourism sector, highlighting the skills and strategies necessary to create successful ventures. The authors suggest that the adoption of sustainable practices is a pathway not only to meeting regulatory requirements but also to creating a sustainable competitive advantage in the long term. This research complements the discussion on the importance of incorporating sustainability from the conception to the operation of tourism enterprises. This literature review demonstrates the diversity of approaches and practices that can be adopted to promote sustainability in the hospitality sector, serving as a theoretical and practical foundation for the present research.

### **Methodology**

The methodology employed in this research to analyse the feasibility of green investment projects in the hospitality sector is structured to combine qualitative and quantitative analysis. This combination aims to provide a comprehensive and in-depth perspective on the subject, considering the particularities of sustainable entrepreneurship in the hospitality industry and the profitability of sustainable projects.

The research adopts an exploratory and descriptive approach, based on case studies and financial analysis. For the qualitative analysis, sustainable hotels that implemented eco-friendly practices in various stages of their operations were selected. These

practices include the use of renewable energy, waste management, and the selection of sustainable materials for the construction and operation of the establishments. Case studies were chosen based on representativeness criteria, encompassing hotels of different sizes and locations, including both large international chains and local enterprises. Additionally, these cases were selected for their emphasis on green practices and the integration of ESG (environmental, social, and governance) criteria into their operations, as evidenced in previous studies [4, 5].

From the case studies, data were collected on the implementation of green technologies and the challenges and benefits experienced by entrepreneurs. These data were analysed to identify patterns and best practices, as well as to understand the main motivations and barriers to adopting sustainable practices in the hospitality sector. The results of this qualitative analysis provided deeper insights into successful strategies for using sustainable technologies, along with changes in consumer perceptions and behaviours, which increasingly demand eco-friendly practices in the industry.

Additionally, financial analysis was conducted to assess the economic viability of sustainable projects in the hospitality sector. Established financial methods were used, such as calculating the Net Present Value (NPV), Internal Rate of Return (IRR), and payback period, based on real or projected financial data found in the literature and case studies of sustainable hotels. NPV was used to calculate the present value of future cash flows, enabling the identification of a project's net profitability over time. IRR was applied to determine the rate of return generated by the project, comparing it to the minimum return rate required by investors. The payback period, in turn, was used to assess the time required to recover the initial investment, an important indicator for entrepreneurial decision-making.

These financial calculations were conducted considering the impact of financial incentives such as subsidies, community funds, and tax incentives, which have been widely discussed in the literature as essential mechanisms for making sustainability projects economically viable [6]. These incentives, which may vary by country and region, were factored into the cash flow projections to reflect their influence on reducing the project's total cost and accelerating the return on investment.

Moreover, the analysis incorporated sustainability criteria as critical variables in evaluating project feasibility. These criteria involve implementing practices aligned with ecological principles, such as the use of renewable energy, water consumption reduction, waste management, and the choice of low-impact materials. The importance of these practices, aligned with the Sustainable Development Goals (SDGs) and ESG criteria, has been highlighted in various studies, including those by Legrand & Matthew-Bolofinde (2022) and Lima et al. (2024), as differentiating factors that add value to businesses and positively impact brand image [7].

The methodology also includes an analysis of market trends and demand for sustainable accommodation, using consumer data and tourist behaviour prioritizing eco-friendly practices. According to Andrade-Valbuena et al. (2022), the growing preference of consumers for sustainable establishments can directly

influence investment decisions and the competitive positioning of companies. Considering this market factor helps integrate sustainability into the business strategy, making it a central element of the value proposition of sustainable hotels.

The integration of quantitative and qualitative data, obtained through case studies, financial analysis, and literature review, provides a holistic view of the feasibility of green investment projects in the hospitality sector. This methodological approach, combined with a focus on financial incentives, sustainable practices, and consumer behaviour, aims to offer valuable insights to entrepreneurs seeking to integrate sustainability into their hospitality projects, contributing to the promotion of a greener and more profitable hospitality industry [8].

## Discussion of Results

### Sustainable Entrepreneurship in the Hospitality Sector

In the context of hospitality, sustainable entrepreneurship involves implementing practices that not only address environmental needs but also create social and economic value. Entrepreneurs can adopt various approaches to integrate sustainability into the construction, operation, and management of their hotels. An example is seen in the research by Al-Zoubi et al. (2021), which explored the feasibility of using photovoltaic systems for green electrification in hotels. The use of green technologies, such as solar panels, reduces the consumption of electricity from non-renewable sources, thereby lowering the hotel's carbon footprint and generating long-term savings.

Moreover, waste management and the selection of eco-friendly materials are essential components of sustainable hotel operations. Using materials with a lower environmental impact, such as certified wood, and implementing effective waste management systems, such as recycling and composting, contribute to operational sustainability. These practices not only help reduce environmental impact but can also result in greater customer loyalty. This is supported by Yu et al. (2024), who showed that green incentives in hotel marketing programs positively influence the consumption intent of environmentally conscious guests [9].

### Economic and Financial Feasibility of Green Investment Projects

In the financial analysis of sustainable investment projects, such as the construction and operation of green hotels, financial indicators like Net Present Value (NPV), Internal Rate of Return (IRR), and Payback are used to assess economic feasibility. Below are the values of these indicators as described in the feasibility studies of sustainable projects in the hospitality sector.

**NPV: Net Present Value:** The Net Present Value (NPV) is an essential indicator for calculating a project's profitability. In the analysed studies, NPV was used to determine whether investments in sustainable technologies, such as solar panels or energy management systems, would yield positive returns over time. For instance, Al-Zoubi et al. (2021) demonstrated a positive NPV of USD 420,000 for implementing a photovoltaic system at the Cedars Hotel in Jordan. This value indicates that after accounting for implementation costs, the project would yield returns exceeding the initial investment, proving the economic viability of sustainable investment.

**IRR: Internal Rate of Return:** The Internal Rate of Return (IRR) is another crucial indicator for measuring project profitability. An investment is considered viable when the IRR exceeds the minimum return rate required by investors. Halil et al. (2016) observed that the IRR for green building projects varies between 12% and 15%, depending on the technologies implemented and market conditions. These values indicate attractive profitability, especially since traditional investment returns in the hospitality sector typically range from 6% to 10% [10].

**Payback:** Payback calculates the time required to recover the initial investment and is used to evaluate how quickly a green hotel project can become financially sustainable. Sloan et al. (2010) reported that the Payback for investments in sustainable technologies in green hotels, such as energy-efficient systems and eco-friendly materials, ranges from 2 to 5 years. For instance, Al-Zoubi et al. (2021) estimated a Payback of approximately 5 years for the installation of a photovoltaic system, suggesting that after this period, the hotel's operating costs would significantly decrease, leading to substantial profits from energy savings.

These values illustrate how financial indicators can be used to assess the feasibility of sustainable investment projects in the hospitality sector. Positive NPVs, high IRRs, and relatively short Payback periods demonstrate that investments in green technologies are not only viable but also financially advantageous in the long term. These indicators provide a solid foundation for hospitality entrepreneurs to make informed decisions about implementing sustainable practices, aligning financial profitability with environmental goals [11].

### **Incentives and Green Financing**

Green incentives and financing are crucial for implementing sustainable investment projects, particularly in sectors like hospitality, where the initial costs of green technologies can be high. The analysed studies identified various types of incentives and financing mechanisms to support sustainability projects in the hospitality sector. These include:

**Tax Incentives and Government Subsidies:** Sloan et al. (2010) discussed the use of subsidies and tax incentives for green building construction. These incentives are common in many countries and aim to reduce the initial costs of sustainability investments. For example, hotels implementing energy-efficient systems, such as solar panels and water recycling systems, may qualify for tax deductions, credits, or exemptions on renewable energy consumption. Subsidies for installing green technologies, such as solar or wind energy systems, can significantly lower initial investment costs, enhancing the economic viability of sustainable projects and accelerating returns on investment.

**Community Funds and Green Financing Programs:** Andrade-Valbuena et al. (2022) explored the increasing availability of community funds and green financing programs to support sustainable hospitality projects. For example, the European Union offers several funding lines, such as the European Regional Development Fund (ERDF), to finance energy efficiency and green construction projects in hotels. These funds are important because they often offer favourable terms, such as reduced interest rates or longer repayment periods, making proj-

ects more accessible to small and medium-sized entrepreneurs in the hospitality sector [12].

**Green Credit Lines for Sustainability Investments:** According to Halil et al. (2016), banks and financial institutions are increasingly offering green credit lines to finance sustainable technology implementations. These green loans, with favourable interest rates, are granted based on the hotel's commitment to adopting environmentally responsible practices. These credit lines can be used to finance renewable energy systems, such as solar panels or wind turbines, or waste management systems more affordably.

**Certificates and Green Certification Programs:** Environmental certification programs, such as LEED (Leadership in Energy and Environmental Design) and Green Key, discussed by Legrand and Matthew-Bolofinde (2022), also play an important role in attracting financial incentives. Although these programs do not directly offer subsidies, hotels that obtain green certifications can access various benefits, including tax reductions, preferential credit lines, and partnerships with local governments for incentive programs [13].

**Incentives for Research and Development (R&D):** Yu et al. (2024) highlighted that the hospitality sector can benefit from R&D incentives, particularly for technological innovation projects aimed at sustainability. These incentives are offered by various governments and can support the development of new green technologies, such as advanced energy management systems and sustainable construction solutions.

### **These Incentives and Financing Mechanisms are Essential for Encouraging Hotel**

entrepreneurs to adopt more sustainable practices. They not only make investments in green technologies more accessible but also mitigate financial risks associated with innovative, environmentally responsible solutions.

### **Competitive Positioning in the Sustainable Hospitality Market**

Sustainability can be a decisive factor for competitive positioning in the hospitality sector. Hotels adopting eco-friendly practices have the opportunity to stand out in an increasingly environmentally conscious market. Legrand and Matthew-Bolofinde (2022) emphasized that integrating sustainable practices can create a significant competitive advantage, attracting tourists who prioritize environmental responsibility when choosing accommodations [14].

Sustainability is not just an operational practice but an effective marketing strategy, offering a critical differentiator in saturated and competitive markets. These examples demonstrate how sustainable entrepreneurship in the hospitality sector, economic and financial viability of green projects, access to incentives and financing, and competitive positioning can interact to create a robust and attractive value proposition for both investors and consumers [15].

### **Conclusions**

Sustainable entrepreneurship in the hospitality sector is presented as both viable and essential for aligning economic pro-

ductivity with environmental and social responsibility. Simple sustainable practices, such as the use of green technologies and efficient resource management, have proven increasingly effective, not only in reducing environmental impact but also in creating economic value and strengthening relationships with consumers. Studies like that of Al-Zoubi et al. (2021) demonstrate that investments in technologies such as photovoltaic systems can yield significant returns, with positive financial indicators such as a high NPV and a relatively short payback period.

Additionally, access to financial incentives, subsidies, and green credit lines reduces certain economic barriers, enabling the implementation of pioneering practices. These mechanisms facilitate the inclusion of small and medium-sized enterprises in the sustainability campaign, underscoring the crucial role of public policies in transforming the sector.

The competitive position of hotels adopting these sustainable measures is also highlighted as a strategic advantage, attracting an increasingly conscientious audience aligned with the values of environmental responsibility. The integration of ESG (Environmental, Social, and Governance) practices not only enhances brand image but also establishes a differentiator in a highly competitive market.

This paper concludes that sustainability in hospitality is not just a trend, but a necessity to ensure the sector's longevity. With the support of public policies, adequate funding, and industry commitment, sustainable entrepreneurship can transform the hospitality sector into an exemplary model of responsible, sustainable, and profitable development.

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