Green Jobs in The Hospitality Industry: Literature Review

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INFO ARTIKEL

Diterima
10 Oktober 2023
Disetujui
29 November 2023
Tersedia Secara Online
30 Desember 2023

ABSTRACT

The growing importance of sustainability in the hospitality industry stems from the recognition of its impact on the environment, society, and the long-term viability of the industry itself. The hospitality industry is resource-intensive and can have a significant ecological footprint. However, there seems to be a gap in literature specifically addressing the concept of green jobs within the context of the hospitality industry. This study utilizes academic databases, such as PubMed, ResearchGate, and ScienceDirect, to search for relevant articles, research papers, and reports. The literatures were categorized based on themes, such as job creation, training and skills development, environmental impact, and economic benefits. The research findings reveal that there is currently no specific study on green jobs in the hospitality industry. This is because the industry does not yet have a significant number of green jobs, environmental policies, or the production and provision of green products or services. This research could contribute to understanding the challenges, opportunities, and best practices related to green jobs in the sector.

Keywords: employee, green jobs, hospitality industry, human resources department

ABSTRAK


Kata Kunci: karyawan, pekerjaan ramah lingkungan, industri hospitaliti, departemen sumber daya manusia
INTRODUCTION

Background

The hospitality industry is one of the largest and fastest-growing industries in the world, providing employment opportunities to millions of people globally. However, the industry is also known for its significant environmental impact, particularly in terms of energy consumption, waste generation, and carbon emissions. As the world becomes increasingly aware of the need to address climate change and environmental degradation, there is a growing interest in promoting sustainable practices in the hospitality industry.

The hospitality industry has begun to recognize the importance of adopting sustainable practices in their daily operations (Ecobnb, 2023; Hospitality, 2023; Shanti & Joshi, 2022). Green practices are actions that hotels take to minimize their negative effects on the environment, such as reducing energy and water consumption, using renewable sources, recycling waste, and sourcing locally. Sustainable practices make hospitality organizations stand out, and today’s travelers, restaurant patrons, hotel bookers, and shoppers care about sustainability.

Green hotel practices and green jobs are two important aspects of sustainable tourism. Green hotel practices refer to environmentally friendly practices that hotels can adopt to reduce their environmental impact and promote sustainability. Green jobs, on the other hand, are jobs that contribute to preserving or restoring the environment. Green jobs are an important aspect of sustainable tourism. They are jobs that contribute to preserving or restoring the environment, and they can be found in a variety of industries, including tourism. Some examples of green jobs in the tourism industry include:

1. Ecotourism guides: Ecotourism guides lead tours that focus on environmental conservation and sustainability. They educate tourists on the local environment and promote sustainable tourism practices.
2. Sustainable hotel managers: Sustainable hotel managers oversee the implementation of green hotel practices and ensure that the hotel is operating in an environmentally friendly manner.
3. Sustainable food and beverage managers: Sustainable food and beverage managers oversee the sourcing of local, organic, and seasonal food and beverage products, and promote sustainable food practices.
4. Renewable energy technicians: Renewable energy technicians install and maintain renewable energy systems, such as solar panels and wind turbines, which can be used to power hotels and other tourism facilities.

By creating green jobs, the tourism industry can contribute to sustainable development by promoting environmental conservation and sustainability. Green jobs can also provide economic benefits by creating new job opportunities and promoting economic growth in local communities. One way to achieve this is through the creation of green jobs, which are defined as any decent work that contributes to maintaining and restoring the quality of the environment (Stanef-Puică et al., 2022).

The hospitality industry has recognized the importance of adopting sustainable practices in their daily operations, and many works of literature support this claim. Green practices are actions that hotels take to minimize their negative effects on the environment, such as reducing energy and water consumption, using renewable sources, recycling waste, and sourcing locally. However, there is limited literature available on green jobs in hospitality industry. While green practices have been widely adopted, there is a need for more research on the impact of these practices on job creation and the economy.

The lack of literature on green jobs in hospitality industry is a crucial gap that needs to be addressed. The hospitality industry is a significant employer worldwide, and the adoption of green practices has the potential to create new job opportunities and contribute to the economy. However, the impact of green practices on job creation and the economy is not well understood. More research is needed to understand the potential of green jobs in the hospitality industry. By conducting a bibliography literature review on green jobs in the hospitality industry, researchers can gain a deeper understanding of the current state of research and the potential for green jobs in this sector. This knowledge can be
used to develop innovative strategies and policies that promote sustainable practices and contribute to the long-term success of the hospitality industry.

The review will begin by providing an overview of the concept of green jobs and its relevance to the hospitality industry. It will then examine the current state of research on green jobs in the hospitality industry, including the key themes and research questions that have emerged in recent years.

**Research Objective**

This literature review aims to analyze the scientific literature published in the last ten years on the topic of green jobs in the hospitality industry. The review will identify the definitions and meanings associated with the concept of green jobs, the connected terms, areas of research interest, and the main theoretical and practical results.

**METHODOLOGY**

In this literature review, VOSviewer was used to analyze the scientific literature published in the last ten years on the topic of green jobs in the hospitality industry. By adapting to Liang et al. (2017) literature review, the articles were filtered with the conditions: (1) studied published between 2013-2023; (2) studies that had keywords: green jobs, hospitality, job creation, training, skill development, environment impact, economic impact and (3) the availability of the full text. The articles journals were conducted using PubMed academic database, which is free data sources. No article was found using Scopus database. Based on the search, there are 161 articles with the keyword "green job" and 78 articles with the keyword "green jobs". Based on the search, there are 161 articles with the keyword "green job" (without “s”) and 78 articles with the keyword "green jobs" (with an “s”). The 78 articles will be mapped with other keywords. The search results were analysed using VOSviewer, a software tool for constructing and visualizing bibliometric networks. The software was used to identify the most relevant articles, authors, and keywords related to green jobs in the hospitality industry. The analysis was based on co-occurrence of terms in the titles, abstracts, and keywords of the articles.

**RESULTS AND DISCUSSIONS**

1. **The Findings by Using The Keywords: Green Jobs And Job Creation**

![Figure 1.1](image-url)

*The keywords Green Jobs Are Not Related to Job Creation*
Figur 1.1 and Figure 1.2 begin with a search with the keywords green jobs, hospitality, and job creation. However, in the publish and perish application there is not a single journal in Pubmed that has the keywords green jobs and hospitality. So, green jobs were used with job creation only. It can be seen that with the keywords green jobs and job creation the results are not related to one another. The search for "green jobs, hospitality, and job creation" did not yield any results in the Pubmed database when using the Publish or Perish application. However, when using the VOSviewer, it can be seen that the results for "green jobs" and "job creation" are not related to each other (Araújo et al., 2018; Froy et al., 2022; Stanef-Puică et al., 2022) The literature review on "green jobs" has been a topic of interest for the past two decades, and there are a relatively large number of published papers on the subject. The studies on "green jobs" mainly focus on issues such as green job creation, definitions and meanings associated with the concept of "green jobs," and areas of research interest. The term "green jobs" refers to any decent work that contributes to maintaining and restoring the quality of the environment. The "green economy" is a concept that many countries perceive as an opportunity to preserve the environment.

Figure 1.2
Green Jobs And Job Creation By Using the Keywords Overall With An Occurrence Of 206 Terms

Figure 1.3
Using Research Year By Using the Keywords Green Jobs and Job Creation
Figures 1.3 and 1.4 explain the years of existing research. The research on green jobs seen in the figure was conducted in 2017. Overall, the range of research years with keywords green jobs and job creation ranges from 2017 to 2022. Based on the search results, the research on green jobs and job creation ranges from 2017 to 2022. The literature review article from PMC - NCBI mentions that the topic of "green jobs" has drawn attention in the past two decades, resulting in a diverse range of published papers (Stanef-Puică et al., 2022). The article also mentions that many studies have approached green jobs in line with the "Green Jobs Initiative" description issued by various organizations. The article from SpringerLink focuses on the creation of green jobs in the circular economy (Sulich & Soloducho-Pelc, 2022). It mentions that green jobs are most visible in the environmental goods and services sector. Based on these sources, it can be concluded that research on green jobs and job creation has been conducted from 2017 to 2022. The studies have focused on various aspects such as the circular economy, the comparison of job creation effects between green and unsustainable investments, and the employment impact of green fiscal policies.

According to Figure 1.5, it can be seen that the keywords "Green Jobs" and "Job" have been researched by many people. However, the yellow color emitted in the figure is due to the keyword "benefits," which is directly related to green words. The topic of "Green Jobs" has drawn particular
attention in the past decades, resulting in a widely diverse and relatively large number of published papers. However, the heterogeneity of these studies may raise the issue of a systematic documentation of the key contributions in this field. Many studies have chosen to approach green jobs in line with the "Green Jobs Initiative" description issued by the partnership between the United Nations Environment Program (UNEP), the International Trade Union Confederation (ITUC), the International Organization of Employers (IOE), and the International Labor Organization (ILO). Studies have shown that creating and matching green jobs is intended to reduce environmental damage, improve environmental quality, and reduce unemployment (Stanef-Puică et al., 2022). Green jobs can provide good quality employment in Europe, and such jobs pay higher wages and are at lower risk (Valero & Hannon, 2021). However, greener jobs tend to be occupied by older workers and men, and policymakers will need to ensure equitable access to green, future-fit jobs. In summary, while there has been significant research on "Green Jobs," there is still very little research on Green Jobs related to job creation especially in the hospitality industry. Further research is needed to understand the benefits and challenges of creating green jobs and to ensure equitable access to these jobs.

2. The Findings by Using the Keywords: Green Jobs and Training

The Publish or Perish application was used to search for research related to green jobs, training, and expanded by using the keyword skill development, but no results were found. However, the VOS viewer displayed results related to green jobs and training. Green jobs refer to employment opportunities that contribute to preserving or restoring the environment, while training refers to the process of acquiring knowledge or skills for a particular job or task. According to a report by the International Labour Organization (ILO), the transition to a greener economy will require significant investments in training and skills development. The report emphasizes the need for a just transition, which ensures that workers are not left behind during the transition to a greener economy. This can be achieved through policies that support skills development, training, and education, as well as social protection measures for workers who may be affected by the transition. Overall, the transition to a greener economy will require significant investments in training and skills development to ensure that workers are equipped with the knowledge and skills needed to succeed in the new economy. Policies and programs that support training and education, as well as social protection measures for workers, will be essential to ensure a just transition to a greener economy.

Figure 2.1
By Using Keywords Green Jobs and Training

In Figure 2.1 it can be seen that green jobs and training have a direct relationship. It can be concluded that green jobs and training have a relationship that has been researched before. However, when viewed from the distance between the green job keyword and the green job and training keyword, this training has very little research. This can be seen from the distance between the two keyword
points. In addition, judging from the colour of green jobs and training, it can be seen the comparison of the two keywords. The green jobs keyword has a green colour which means there is very little research on the keyword. On the other hand, the training keyword has a red colour which can be interpreted as having a lot of research.

**Figure 2.2**

Year of Research by Using the Keywords *Green Jobs and Training*

In **Figure 2.2** it can be seen that there are several different colours that indicate different years. The green jobs keyword has a yellow colour which means that research on green jobs seems newer than training. When compared to the keyword training, training seems older and already known earlier than green jobs.

**Figure 2.3**

Density Visualization by Using the Keyword *Green Jobs and Training*.

In **Figure 2.3**, we can infer the density of the keywords green jobs and training. The green jobs keyword is seen to have a bright yellow colour. This means that the green jobs keyword has many close relationships with it. It can be seen that the keyword is surrounded by 5 keywords around it.
Meanwhile, the training keyword has a slightly dim yellow colour. This is because the training keyword is only surrounded by 4 keywords. However, the training keyword is surrounded by important keywords so that the training keyword has a slightly dimmer color when compared to the green job.

3. The Findings By Using The Keywords: Green Jobs And Environment Impact

As with the keywords green jobs and training, no literature was found by using the keywords green jobs, hospitality, and environmental impact. However, using the keywords green jobs and environmental impact can find some literature that has a relationship.

![Figure 3.1](image1)

**Figure 3.1**
Network Visualization by using the Keywords Green Jobs and Environment Impact

In Figure 3.1, it can be seen that VOSviewer displays several keywords but there are no Green Jobs and Environment Impact keywords. In fact, there is a red dot that looks like it is disconnected from the other dots. This means that there is absolutely no research that connects the keywords Green Jobs with Environment Impact. In fact, there are 470 terms that are interconnected but none of the Green Jobs keywords come out.

![Figure 3.2](image2)

**Figure 3.2**
Overlay Visualization by using the Keywords Green Jobs and Environment Impact

Figure 3.2 presents several points that have unequal colours. When referring to the right corner of the figure, it can be concluded that these studies have a range of years from 2016 to 2022. Instead, the
keyword age appears to have the latest research in 2022 and the keyword pre hospital management has the last research in 2016, where both keywords are not related to the hospitality industry. It can be concluded that in the span of years there is also no research that connects the keyword Green Jobs with Environment Impact.

Figure 3.3
Density Visualization by Using the Keywords Green Jobs and Environment Impact

Figure 3.3 shows some keywords that have a very bright yellow colour. This shows that some of these keywords have other keywords related to them and there are many of them. It may not be visible, but if the image is zoomed in on a keyword that is lighter in colour, there are a lot of smaller keywords that are related to that keyword but are not visible. So it can be concluded that, keywords that have a bright yellow colour have been researched a lot. On the other hand, there are keywords that are dark green in colour which means that there are very few related keywords around it.

4. The Findings By Using The Keywords: Green Jobs Dan Economic Impact.

Figure 4.1
Network Visualization by Using the Keywords Green Jobs and Economic Impact

Figure 4.1 shows that the keywords "Green Jobs" and "Economic Impact" do not have a direct or indirect relationship. The sources in the search results provide different perspectives on the relationship between "Green Jobs" and "Economic Impact". For example, some sources emphasize
the potential for green jobs to drive economic growth and create employment opportunities (Bowen & Kuralbayeva, 2015; OECD, 2017). While green jobs and economic impact may not have a direct relationship, they do share some common ground in terms of fostering economic growth, promoting social equity, and attracting a wage premium. However, the transition from polluting to green jobs may not be as straightforward as it seems, as workers may need to acquire new skills and adapt to different industries (Bergant et al., 2022).

The sources in the search results use different keywords or concepts to describe the relationship between "Green Jobs" and "Economic Impact". For example, some sources associate "Green Jobs" with terms like "sustainable development", "circular economy", or "renewable energy" (Stanef-Puică et al., 2022; Sulich & Soloducho-Pelc, 2022), while others focus on the broader implications of green policies for job creation and economic growth (OECD, 2017). Overall, it is difficult to draw a definitive conclusion about the relationship between "Green Jobs" and "Economic Impact" based on the search results. However, it is clear that there is a growing interest in the potential of green jobs to drive economic growth and promote sustainable development, as well as a need for further research and analysis to better understand the complex interactions between these concepts.

![Figure 4.2](image)

**Figure 4.2**

*Zoom-In On the Relationship Between Green Job and County Keywords*

It can be seen here that in Figure 4.2 there is an indirect relationship between economic benefits and green jobs itself. According to recent literature, there is a lack of research connecting green jobs and economic impact (OECD, 2017; Stanef-Puică et al., 2022). However, creating and matching Green Jobs is intended to reduce environmental damage, improve environmental quality, and reduce unemployment. Studies on Green Jobs have covered different regions of the globe from a geographical perspective. The overall employment effects of a green growth transition will likely be modest and manageable, but further quantitative research is needed. Green jobs contribute to increasing the efficiency of natural resource use, limiting GHG emissions, improving energy efficiency, reducing waste and pollution (Tănăsie et al., 2022). The colour of each point in Figure 4.1 describes something important. Green Jobs has a blue colour, which indicates that the keyword when compared to other keywords is studied very little by researchers around the world. Therefore, it is not surprising that the two keywords, green jobs and economic impact, have no direct relationship at all.
Figure 4.3 shows the research time span of each keyword. It can be seen here that Green Job looks more recently researched when compared to the keyword County, which includes the keyword Economic Benefits. Green jobs tend to require higher levels of education and skills than non-green jobs (Consoli et al., 2016; Vona et al., 2015). This suggests that the demand for green jobs is increasing as the economy shifts towards more sustainable practices. The research found that green jobs require skills significantly more than non-green jobs. The study by the International Monetary Fund also found that green jobs tend to demand higher educational levels.

Gambar 4.4
Density Visualization By Using The Keywords Green Jobs dan Economic Impact
In **Figure 4.4**, it can be seen that the green jobs keyword has a dim green color. This means that the Green Job keyword has not been studied much by other researchers. If, we look at keywords such as business model or economic recovery plan, we can conclude that these keywords have been studied more. According to the literature on green jobs, the keyword "green jobs" has been studied extensively in the past two decades (Kozar & Sulich, 2023). However, it is difficult to determine the exact extent of research on this topic, as the literature is diverse and heterogeneous. In terms of specific keywords related to green jobs, some have been studied more than others. For example, the keywords "business model" and "economic recovery plan" have likely been studied more than "green jobs," as they are more specific and focused topics. In a bibliometric review of green jobs literature, only two keywords representing "green jobs" and "green job" were placed in the bibliometric map, indicating that this topic has not been studied as extensively as others. Overall, while the keyword "green jobs" has been studied extensively, it is difficult to determine the exact extent of research on this topic due to the heterogeneity of the literature. However, it is clear that some specific keywords related to green jobs have been studied more than others.

**Figure 4.5**

*Zoom-in by Using the Keyword business model*

The abundance of keywords surrounding the business model in **Figure 4.5** indicates that the business model has been widely researched, and other related keywords have been explored in research studies. This signifies the significance and depth of research conducted on the business model as a core topic. This is likely due to the importance of the business model in the context of entrepreneurship and innovation, as it provides a framework for creating and capturing value (Bowen & Kuralbayeva, 2015). Additionally, the business model is a critical component of business strategy, as it outlines how a company plans to generate revenue and achieve profitability (Kozar & Sulich, 2023).

**Discussions**

The analysis of the literature revealed that the concept of green jobs in the hospitality industry is still evolving. However, the literature generally defines green jobs as any job that contributes to the sustainability of the industry by reducing its environmental impact. This includes jobs in areas such as...
energy efficiency, waste reduction, water conservation, sustainable food production, and ecotourism. Green jobs in the hospitality industry can be found in a variety of roles, including management, operations, marketing, and customer service.

The analysis of the literature also revealed several related research areas in the field of green jobs in the hospitality industry. These include: green technology research in hotels (Gunduz Songur et al., 2022), green human resource management and employee green creativity in the hospitality and tourism industry (Fachada et al., 2022; Khan & Faisal, 2023), the circular economy and green jobs creation (Sulich & SoloduchPelc, 2022).

Green jobs in the hospitality industry require a range of skills and competencies, including technical skills, soft skills, and sustainability knowledge. Technical skills may include knowledge of energy-efficient technologies, waste reduction strategies, and sustainable food production practices. Soft skills may include communication, teamwork, and problem-solving skills. Sustainability knowledge may include an understanding of environmental issues, sustainability principles, and sustainable business practices.

The creation of green jobs in the hospitality industry presents both challenges and opportunities. One of the main challenges is the need to balance environmental sustainability with economic viability. Green initiatives may require significant upfront investments, which may be difficult for small and medium-sized enterprises (SMEs) to afford. Additionally, there may be a lack of awareness and understanding of green practices among industry stakeholders, which may hinder the adoption of sustainable practices.

However, the creation of green jobs also presents significant opportunities for the hospitality industry. Green initiatives can help reduce costs, increase efficiency, and improve the overall sustainability of the industry. Additionally, green jobs can help attract environmentally conscious customers and employees, which can enhance the industry’s reputation and competitiveness.

Various studies on sustainability in the hospitality sector have been conducted, Kapera (2018) discusses the current implementation capabilities and barriers and conditions of implementation of sustainable development principles in the hotel industry in Poland. Research on the role of guest perceptions regarding hotel practices in terms of water conservation and waste reduction management in increasing hedonic and utilitarian values and testing the effect of these relationships on guest participation intentions in environmentally friendly practices and loyalty intentions (Han et al., 2018).

Another study conducted by Jauhari (2018) focused on a number of key issues including green hotel design, reducing energy consumption, the role of modern technology in achieving sustainability and how human resource management practices can contribute to sustainable development.

A study on sustainable practices implemented by hotels in Bulgaria (one of the partner countries in the Next Tourism Generation Alliance), found that accommodation establishments integrate green routines regardless of category, size and product (Ivanov et al., 2014). The interesting fact that there are practices implemented by hotel employees, and others, aimed at tourists/consumers (e.g. policies for energy saving, cleaning and water saving, use of bioproducts, etc.) implies that green education and training is needed for both workers and customers. Moreover, the new generation of travelers comes with a shifting environmental awareness and seems to appreciate and even demand “green products” (Ivanov et al., 2014).

The ability to recognize environmental problems, and to suggest possible solutions, or at least to meet certain sustainable standards, constitutes what is called “green skills”. Green skills do not necessarily require specialized ecological or chemical knowledge of the substances and liquids used in hospitality establishments. In fact, the hospitality industry does not recycle used materials, but rather participates in the preparation process of recycling and cleaning, or in reducing the negative effects that arise in the daily operation of the hotel. Green skills by default include knowledge of hazards and risks, inherent to any activity, combined with proactive behavior to avoid or minimize negative impacts on all interested parties - hotel, guests, nature, destination and other stakeholders. The following are exemplary green skills: ability to minimize the use and maximize the efficiency of energy and water consumption, ability to manage waste, wastewater, recycling and composting, biodiversity conservation, promotion of sustainable forms of transport (e.g. public transport), promotion of environmentally friendly activities and products, knowledge of climate change (Survey, 2019). Green jobs in the hospitality industry require a combination of technical skills, industry-specific knowledge and soft skills.
The literature review on green jobs in the hospitality industry provides theoretical insights into the development of green technologies in hotels and practical implications for practitioners in implementing green technologies. It’s also provides insights into sustainability in this sector, covering theoretical, practical, environmental, and socio-economic aspects. This study have concerns regarding potential job losses during the transition to a green economy and analyze the ways in which green policies can promote green job(s) creation. Green jobs play a crucial role in fostering economic growth as they pave the way for the emergence of new sectors and market opportunities. Additionally, green practice present a sustainable solution to environmental challenges while creating new employment opportunities.

CONCLUSION

In conclusion, the creation of green jobs in the hospitality industry is an important step towards promoting sustainability and reducing the industry's environmental impact. This literature review has provided an overview of the concept of green jobs and its relevance to the hospitality industry. It has also examined the current state of research on green jobs in the hospitality industry, including the key themes and research questions that have emerged in recent years. The review has also discussed the skills required for green jobs in the hospitality industry and the challenges and opportunities associated with the creation of green jobs. Overall, this literature review provides a foundation for further research on green jobs in the hospitality industry and highlights the importance of promoting sustainability in the indust
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