

Circular economy and the twin transition in the tourism industry: A systematic literature review

Ujjwal Dey*¹ and Punit Moris Ekka²

¹Indian Institute of Management, Sambalpur, India

²Jagdish Sheth School of Management (JAGSoM), Vijaybhoomi University, India

*Correspondence: phd23ujjwald@iimsambalpur.ac.in

Abstract

Tourism generates substantial waste and resource pressure, and the shift toward a circular economy (CE) increasingly intersects with digitalization, a combination known as the twin transition. This study reviews how the tourism industry has approached circular practices and the twin transition. A systematic literature review was conducted using Scopus, with a search string combining twin transition or circular economy with tourism and covering all years up to October 2025. From 518 peer reviewed articles identified, 32 were retained after screening for language, full text availability, duplicates, and relevance, and these were analyzed by two authors using content analysis. Publication output has grown since 2015, with Italy, Spain, and China among the most active contributing countries. The reviewed literature focuses mainly on waste management, particularly food waste, and on consumer behavior, while digital technologies are comparatively underrepresented and studies that link digital and circular strategies directly are scarce. The paper argues that managing the twin transition in tourism requires coordinated policy, targeted financial support, training for tourism professionals, and collaboration among destinations, businesses, and governments. It proposes future research on skills and competencies for circular and digital tourism, regional differences, tourist behavior, and the employment effects of the twin transition. The findings are limited by reliance on a single database and English language publications.

Keywords: Circular Economy, Tourism Industry, Twin Transition, Sustainability, Digitalization, Systematic Literature Review, Waste Management

JEL Classification: L83, Z32, Q01

1. Introduction

The tourism industry is a major contributor to pollution, animal welfare issues, and biodiversity loss (Azam et al., 2018; Saenz-de-Miera & Rosselló, 2014). In addition to generating approximately 35 million tonnes of solid waste annually, it causes an excessive demand for both land and water (Mateu-Sbert et al., 2013). So far, the majority of studies examining the environmental impacts of the tourism and hospitality sector have concentrated on the industry's role in accelerating global warming. Water consumption and food waste are two other critical factors related to environmental sustainability (Kibler et al., 2018). Consequently, these environmental impacts are likely to worsen in the coming months and years. Finding solutions to reduce the environmental impacts of the tourism and hospitality sectors is crucial if these sectors are to maintain their positive impact on human health and well-being. Protecting the natural environment is one of the four fundamental principles of sustainable tourism (Wight, 2002). The production of waste and its appropriate management are critical markers of environmental health for the long-term viability of tourism. Tourism businesses are strongly urged to minimise waste and enhance their waste disposal methods wherever necessary (Obersteiner et al., 2021; Kasim, 2006). To advance in this domain, it is essential to own industry standards for waste volume and disposal patterns. These goals must be attained to facilitate the development of waste management systems that are both effective and efficient. By integrating previous research on how the twin transition is altering their operational dynamics with current research, this study advances our understanding of sustainable practices related to tourism. We analyzed data from prior studies as operators in the tourism sector must disclose the quantity and type of waste they produce. This systematic literature review (SLR) aimed at providing tourism businesses, policymakers, and researchers with insights on effectively targeting reform initiatives.

In the tourism sector, there is a lack of study on the potential uses of the policies, which limits the industry's ability to apply sustainable practices (Elkhwesky et al., 2024; Prakash et al., 2023; Streimikiene et al., 2021). It is vital to have a full awareness of the potential applications of the policies in order to incorporate them into circular activities that are helpful to the environment in a more effective manner. There is currently no comprehensive assessment of tourism-related studies that is available to apply circular strategies that are relevant to this area (Gusmerotti et al., 2024). Consequently, the purpose of this article is to present a comprehensive analysis of the current condition of the tourism industry in order to illuminate the transition to a digital and circular strategies that may be applied in accordance with the specific tourists needs.

RQ: What is the current level of expertise in the tourism sector with relation to implementing a CE?

The need to evaluate the degree of current CE approaches' implementation in the travel and tourism industry has led to a number of research challenges, including locating previous studies on visitor awareness and demands as well as possible future developments in sustainable tourism (Vargas-

Sanchez, 2023; Manniche et al, 2021; Zorpas et al., 2021; Sørensen & Bærenholdt, 2020). These steer the way towards sustainability and educate industry stakeholders by showcasing more ecologically friendly production and consumption of tourism-related goods and services. This all-encompassing approach provides a strong foundation for identifying certain future paths, allowing the tourism industry to move closer to more successful CE models.

The paper's structure is as follows: The introduction is found in the first part. A detailed description of the approach that will be used to carry out the SLR is given in Section 2. In the third section, the authors present the key findings from the descriptive and the content analyses. Next highlights gaps in the body of existing literature and suggests fresh lines of inquiry in the conclusion, which comes at the end of this study.

2. Methodology

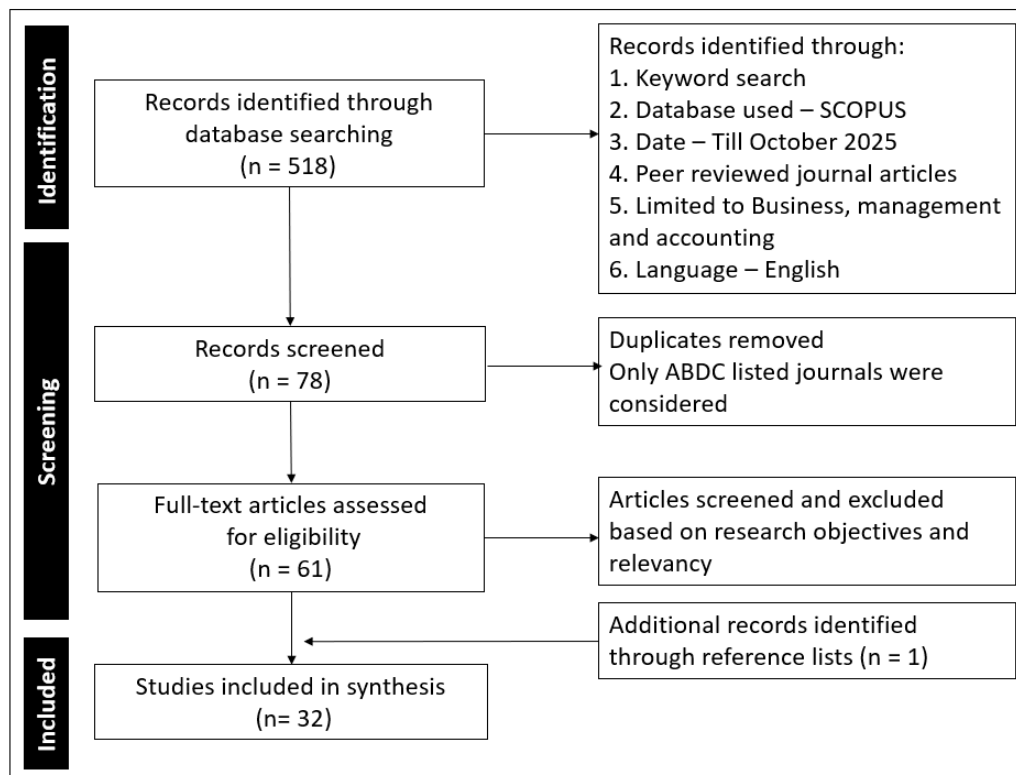
An extensive literature study using the method of SLR was conducted. Twin transitions have been the topic of fragmented research throughout a number of academic fields (Damioli et al., 2025; Gao, 2025; Collini & Hausemer, 2024). Keyword search string used in the Scopus database was ("Twin Transition" OR "circular economy") AND "tourism".

The refined search, limited to peer-reviewed "Articles," yielded 518 publications. Materials excluded from the analysis were those not published in English, exclusively technical publications, or without full text availability. Additionally, we eliminated duplicate documents identified throughout our search. Each author meticulously reviewed all remaining papers prior to choose which to include. Upon thorough examination of each document, the sample size was reduced to 32 papers. The documents were subsequently analyzed to provide the requisite data for the study.

2.1 Inclusion/Exclusion Criteria

Giving a thorough description of the criteria used to determine which papers were included and which were excluded is essential. Both inclusion criteria and exclusion criteria are part of the set of criteria used to choose primary papers. During the data screening and extraction procedure, the following criteria are used: only empirical literature from peer-reviewed journals were chosen. This was carried out in an effort to guarantee the accuracy of the data through a thorough peer review procedure. This study's scope is restricted only to the tourism industry; research from other disciplines or sectors is not included. The initial search was not limited to a specific number of years in order to guarantee that the present review is thorough and considers all of the material that is currently available. For this effort, only full-length, English-language academic papers that had undergone peer review were considered. The titles, abstracts, and keywords of every publication were carefully examined throughout this screening process to determine their relevance to the subject area under investigation in this study. Following the investigation, it was discovered that 518 papers might be taken into consideration for the first phase of the literature review. The data collection analyzed the literature available till October 31, 2025.

Figure 1. PRISMA Flowchart



Source: Adapted from Moher et al., 2019

2.2 Selection of Study

Content analysis was utilized in order to investigate the articles more thoroughly. Both the authors carefully assessed all 32 of the publications that were included in the final sample for the synthesis. A concerted and deliberate effort was undertaken to minimize any biases utilizing a number of methodologies to achieve the highest level of objectivity in synthesizing the research (Suri & Clarke, 2009). This was done to ensure that the research study was accurate and fair (Shaheen et al., 2023). At each stage, the authors independently evaluated the published titles and abstracts according to the inclusion/exclusion criteria. After that, they discussed their evaluations and eventually came to a consensus after multiple rounds of discussion. In the end, 32 studies were selected to move on to the next round of the research. This approach is well-suited for the current investigation. We reviewed and documented the literature on twin transition and its related studies, with tourism focused researchers, using the deductive approach. Our goal in conducting this literature review was to examine all relevant published works on the subject of the current investigation, hence we did not limit ourselves to a certain time period or publication. This review will look at recent research trends, the journals and writers that have written about them, the main

ideas, and the common paths that academics take when planning future study. The goal of this overview is to give readers a sense of the big picture of recent developments in our area of research.

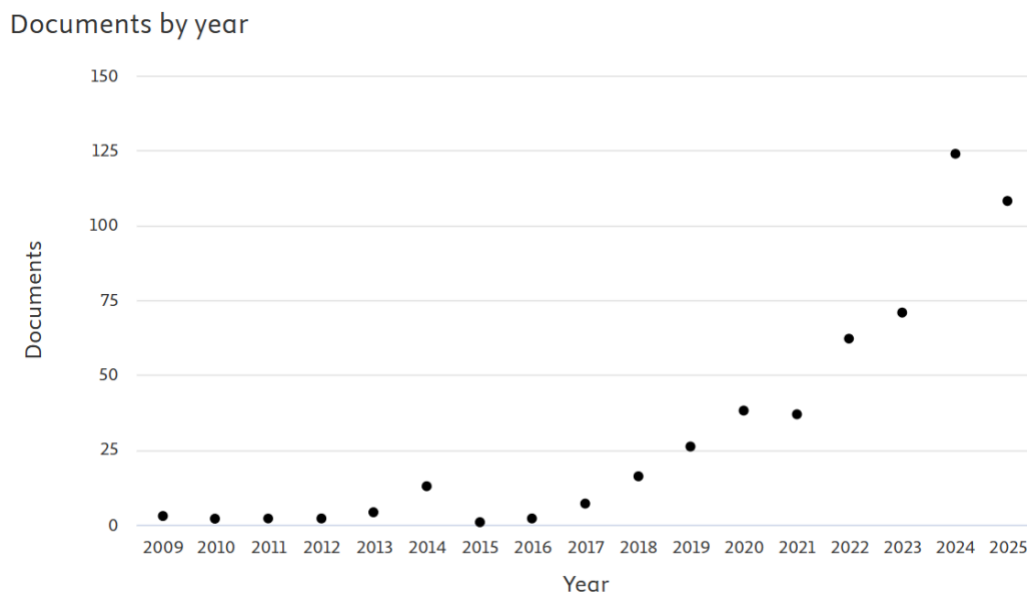
The following section will provide an overview of the main points that were spoken about in this study. The current study not only critically examines the available literature but also provides management implications and a depiction of the consequences of earlier studies on this topic.

3. Results and Discussion

The following section displays this systematic review's results organized by methodology criterion.

Figure 2 illustrates the annual publication frequency of tourism industry's research articles that integrate twin transition. Considering the nature of the discourse, two principal conclusions may be drawn with relative ease. Initially, research examining the potential advantages of twin transition or CE for tourism related businesses, is in its nascent stages of development. A general higher trend in the annual publication of articles from 2015 to 2025 indicates that this developing topic is garnering more attention from growing researchers all across the world.

Figure 2. Annual Publication

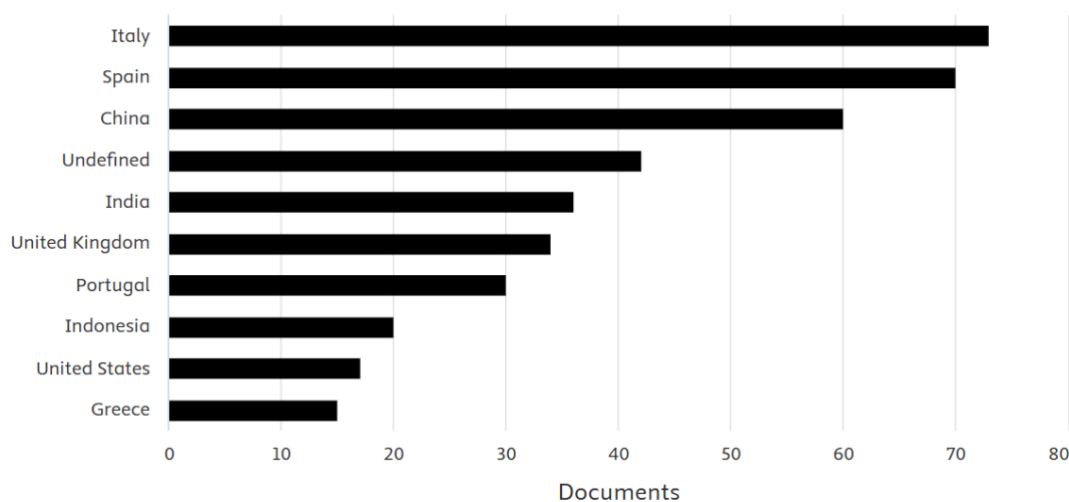


Source: Scopus

The tourism industry is a substantial contributor to employment and gross domestic product in a number of countries and regions (Meyer & Meyer, 2015), particularly in the European Union (EU), where five states are ranked among the top 10 tourist attractions worldwide. Furthermore, tourism has the potential to assist in the development of economically disadvantaged, rural, or outlying regions (Briedenhann & Wickens, 2004). The development of tourism-related infrastructure does

contribute to the growth of the local community, and the creation or maintenance of jobs can help compensate for the reduction of employment in rural or industrial areas (Briedenhann & Wickens, 2004). However, tourism also has a negative externality, which is that it places a significant amount of strain on the resources of the local community and has a significant effect on the environment (Sheng et al., 2017; Archer et al., 2012). In addition to the utilization of land (Sheng et al., 2017), it also makes use of resources such as food (Telfer & Wall, 1996), energy, and water (Kyara et al., 2022); it generates a significant amount of garbage (solid waste and sewage) (Mateu-Sbert et al., 2013; it results in traffic congestion, noise pollution, and air pollution, all of which contribute to the production of carbon dioxide (Azarmi et al., 2019; Kuo & Chen, 2009).

Figure 3. Countries with their Publications



Source: Scopus

The location of a work's publication is intrinsically linked to its "nationality" (Singh et al., 2007). The rationale behind this is that it is widely acknowledged that the place of publication serves as the most dependable indicator of the document's origin (Singh et al., 2007). Figure 3 depicts the names of countries involved in research publications related with the topic of the current study. The above figure clearly shows Italy with the 73 publications is leading the research works, followed by Spain with 70 publications. The China stands at third with 60 and India 36 publications, whereas United Kingdom and Portugal has 34 and 30 research outputs respectively.

Table 1. Top 10 Articles with Highest Number of Citations

Sl. No.	Title	Author	Citations
1	The circular economy in tourism: transition perspectives for business and research	Manniche et al., 2021	113
2	The coming-of-age of tourism: embracing new economic models	Sheldon, 2022	98
3	Circular economy business model for smart tourism: the case of Ecobnb	Del Vecchio et al., 2022	78
4	Circular economy and sustainable strategies in the hospitality industry: Current trends and empirical implications	Bux & Amicarelli, 2023	67
5	Mindful tourism: nothing left behind-creating a circular economy society for the tourism industry of Krabi, Thailand	Pongsakornrunsilp & Pongsakornrunsilp, 2023	59
6	Effects of behavioral intention and dynamic capabilities on circular economy adoption and performance of tourism SMEs	Khan et al., 2023	53
7	Circular economy, circular regenerative processes, a growth and placemaking for tourism future	Tomassini & Cavagnaro, 2022	48
8	Research on the interactive operations research model of e-commerce tourism resources business based on big data and circular economy concept	Yang & Lin, 2022	25
9	Do circular economy practices moderate the wine tourism-green performance relationship? A structural analysis applied to the Spanish wine industry	Martínez-Falcó et al., 2024	24
10	Place-based pathways for the twin transition: the role of systemic change agents	Collini & Hausemer, 2024	19

Source: Scopus

An author's prolificacy can be measured by looking at their article count (Waltman et al., 2013), however this metric doesn't tell you anything about the quality or impact of their work (Giri & Chaudhuri, 2021). It implies that the reference is crucial and essential (Waltman et al., 2013). For the purpose of this research, Scopus was used to find the publications (Schotten et al., 2017), with the most citations. By doing so, a comprehensive and balanced view of the importance of these artifacts is provided (see Table 1).

Figure 4. Word Cloud of Prominent Words



Source: WordItOut

In order to discover which twin transition-related keywords are utilized the most frequently in the tourism area, it is required to conduct an analysis of the most prominent words throughout the articles. Word clouds (see Figure 4) are a helpful tool for data visualization that may be used to show critically important context (Ekka, 2024; Heimerl et al., 2014). After investigation, upon subjectively omitting the generic words, it was discovered that "framework", "intention", "environmental", "mindful" and "opportunities" were the most important terms used in the literature.

3.1 Wastes in Tourism Industry

When it comes to dealing with trash in the tourism and hospitality business, particularly waste that is related to food, there are a number of different techniques that have been suggested (Filimonau & Delysia, 2019). The design of the menu, the manner in which service is provided, the knowledge of visitors, the infrastructure, the disposition of guests, and the methods of organization are all known to play an influence on the amount of food that is wasted (Amicarelli et al., 2022). Increasing the efficiency of kitchen operations is one method that has proven to be effective in

decreasing food waste (Hennchen, 2019). It is possible to reduce waste from paper, glass, and wood by recycling, reusing, and reducing the amount of packaging that is used; however, there has not been a lot of research done on other types of trash. Literature indicates that hotels in developed countries have implemented department-specific plans in order to improve their waste management (Papargyropoulou et al., 2016). Examples of such initiatives include reusing and recycling products, communicating online rather than printing them, and picking vendors who assist with package collection or reducing the amount of packaging used for food supply. When it comes to waste in the hotel industry, the findings of the research indicate that the primary perpetrators are the suppliers, staff, and customers (Amicarelli et al., 2022; Kasavanet al., 2019; Özdemir & GÜÇER, 2018). According to estimates, each tourist generates approximately 1.6 kilogrammes of waste on a daily basis (Obersteiner et al., 2021). Despite the fact that nations with greater incomes produce more garbage per tourist (Zambrano-Monserrate et al., 2021), and have more efficient waste management procedures (Zaman, 2016), countries with lower incomes rely on landfilling waste more than any other way (Agamuthu, 2013). Around 37%–72% of the waste produced by the tourism and hospitality industries worldwide is organic, compared to 6%–40% for paper and cardboard, 5%–15% for plastic, and 3%–14% for glass (Hussain & Soni, 2025). Landfills in the United Kingdom receive 87% of the waste produced by the hotel industry (Oyedele et al., 2013). Literature argues, nearly one-third of the trash generated by hospitality establishments is food waste (Sundt, 2012). Approximately one-third of all food waste is plate waste, which is the term used to describe the edible food that is left on visitors' plates after a meal. Of this waste, 92 percent can be avoided (Pirani & Arafat, 2016).

The societal issue of food waste remains largely unknown, despite the increasing interest in the subject in the tourism and hospitality industries. Previous research also indicates that this industry experiences substantial disparities in the quantity of food that is discarded (Okumus et al., 2020; Filimonau & Delysia, 2019). The majority of studies that investigate the production of food or solid waste focus solely on a single instance, rather than the sector as a whole (Murphy et al., 2019). Hotels contribute 25% of the total solid garbage, while restaurants account for 56% (Pirani & Arafat, 2016). The most prevalent source of information regarding food waste is the self-reported data of hotel and restaurant managers. Poor memory, low response rates, and unclear responses are potential threats to the veracity of such data.

CE within the tourism industry includes, product design which is intentionally focused on waste reduction and the clear distinction between consumable services and durable components (Ioannidis et al., 2021; Rodríguez et al., 2020; Vargas-Sánchez, 2018). These consist mostly of biological materials in and around tourist destinations, that can be safely reintegrated into the biosphere upon the product's life cycle conclusion, potentially following a sequential process involving many phases of reuse. The robust components consist mainly of metals and predominantly polymers, and they are incorporated only in goods specifically designed for reuse.

3.2 Twin Transition

The digital and green transition, both are termed together as the “twin transition” (Horn & Felt, 2025), has been rapidly embraced across industries. The predominant strategies devised to address prominent tourism issues, the ramifications of climate change currently rely on technological innovations (Scott et al., 2012). Technology is widely recognized as a primary component of in tourism business (Buhalis, 1998), is influencing the environmental impact of human activity (Li et al., 2014). Green technological expertise, offering numerous solutions, focuses to aid the transition from a low-carbon economy to zero-carbon emission technology. Researchers concur that the ongoing digital revolution is altering the environment (Rasul, 2024); nevertheless, much debate exists over the nature of these changes' evolution. The existing policies significantly influence the establishment of routes and conditions conducive to the growth of an intelligent and sustainable tourism industry (Kong et al., 2025).

Within the tourism business, there are a number of ideas that encourage the twin transition in tourism sectors (Aulisio & Pereno, 2024), it ought to be more thoroughly integrated with environmental goals, and the actions ought to be put into place in order to encourage its adoption in tourism-related sectors as well (Myshko et al., 2024). It is essential to set specific goals for the adoption of circularity and digitization in the tourism industry. These goals should cover a wide range of areas, such as waste management, infrastructure, and the manufacturing of transport vehicles. In recent years, the concept of a CE has garnered significant attention (Massaro et al., 2021), nevertheless, it existed for a considerable period prior to this new focus. The Ellen MacArthur Foundation, founded in 2010 to promote innovative concepts and expedite the shift towards a regenerative and restorative CE (Truong et al., 2024), has significantly enhanced the prominence of this term in recent years. The increase in related studies and the research output has resulted from the foundation's initiatives. Promoting a place's environmental, social, cultural, and economic qualities in a way that makes people want to go back is one of sustainability's main goals.

It is essential to develop new strategic plans and policies, together with focused financial programs for the implementation of these initiatives, to enable twin transitions in the tourism business. Literature suggested that, to include digital and circular innovations in tourism industry, a paradigm shift is required (De Martino et al., 2025). It can only happen if practitioners can successfully turn the industry's mounting problems into monetary, social, and environmental benefits. By establishing Centers offering training programs specially for twin transition's research and development, can encourage collaboration amongst the various stakeholders to boost their effectiveness and sustainability in tourism and its related industry (Buhalis et al, 2023).

Digitization presents environmental challenges that require investigation and resolution (Veit & Thatcher, 2023), however, numerous opportunities and challenges have emerged due to such digitization (Agostini et al, 2020). Fatema et al., (2024) argues that, digital revolution in tourism

has generated significant demand for energy and resources, resulting in environmental issues. The transition to a more sustainable economy may be more challenging due to these impediments. The escalating production and consumption of electronic devices has generated a substantial volume of electronic garbage, which presents challenges in its management and recycling (Tansel, 2017). It is imperative to formulate a comprehensive strategy that evaluates the merits and drawbacks of digitization in tourism to effectively address the challenges associated with its transition. Merely integrating digital technologies into an existing strategy is insufficient (Yeow et al., 2018); strategies must also include how these technologies influence energy consumption (Pace, 2016), digital waste (Oktriono et al., 2025), resource management (Wei & Liu, 2023), and tourists' demands (Sigala, 2018). Governments and the public-private sector must cooperate to optimize sustainability potential of digital transformation in tourism businesses and alleviating its possible adverse effects.

4. Theoretical and Practical Implications

The present linear economy does not promote the recycling, reusing, or recovery of resources, nor does it effectively optimize materials (Sariatli, 2017). This is why policymakers and other stakeholders throughout the globe are more interested in the idea of a CE. The industrial sector has, nevertheless, constituted the bulk of CE studies. Despite being a major source of water and energy loss, food waste, traffic issues, and carbon dioxide emissions, tourism business has received surprisingly little attention among researchers regarding implementing twin transition in this industry.

Solid wastes pose a significant threat to the environment (Ma et al., 2022). The term “waste” means nothing more than the materials that were used to make the things that are thrown away (Amasuomo & Baird, 2016). Landfills are a major source of greenhouse gas emissions, which in turn contribute to global warming. Tourism sector is highly concerned with reducing waste to make sure its operations are environmentally sustainable. Nothing less than immediate action is required to ensure the achievement of the Sustainable Development Goals (SDGs). To make the tourism business more eco-friendly, governments should promote the development and use of renewable energy sources. The administrative costs caused by bureaucracy should be reduced as a secondary goal of policy initiatives. In order to make the shift to CE model work, the tourism industry needs to become more socially conscious, and awareness campaigns could help get them there. Participation is necessary from every level of society, including governments, travel agencies, and individuals.

Restaurant and café biodegradable food scraps present a unique disposal challenge for the hospitality and tourist sector. Because it is an exact representation of the natural resources that went into its making, this trash is particularly harmful to the environment. As a byproduct of biological waste disposal in landfills, methane is created, a gas that is 28–36 times more dangerous than carbon dioxide. Members of staff can help cut down on food waste by taking part in efforts

to optimize portioning, speed up food ordering, simplify food processing and preparation, and enhance menu design. Raising awareness of the environmental impacts of food choices is another attractive strategy for motivating socially responsible conduct among customers at restaurants.

The infrastructure of restaurants and hotels can be improved by supplying smaller plates and taste samples, and the arrangement of the meal service spaces can be improved by providing fairly sized buffets. This will help to enhance customer behaviour. Providing customers with takeaway choices for edible food leftovers and helping them better understand and digest unusual or difficult-to-eat foods are two other practical ways to cut down on food waste. In general, people stay away from meals they don't know what to do with. Insights from those who work in the food service industry can help hotels enhance their visitors' experiences by suggesting additional activities to do during their stay, in addition to the delicious meals.

With better food waste management, less non-food goods are needed for animal feed, leading to an increase in food production, especially hog and poultry meat. While it's probable that the hospitality and tourism industry lacks the capital to build a bioenergy plant to recycle biodegradable trash, this could be a practical way to help with greener bio waste management at the destination level.

5. Conclusion

All parties involved, including consumers, employees, the government, the general public, other nations, and future generations have a stake in the tourism industry's success. Travelers may shed light on various aspects of contemporary culture, such as how individuals organize their leisure time, present themselves, perceive the world, and weigh the risks and benefits of various scenarios.

A robust start-up ecosystem for circular tourism is much needed to address various circular goals satisfying SDGs in tourism industry. The current ecosystem is propelled by interconnections among tourism and many economic sectors. There seems to be an increasing interest among governments in the CE for tourism, particularly regarding technology aligned with digitization and automation tendencies.

The tourism industry is currently going through a dual revolution, which is being pushed by the need for sustainability as well as the demand for digital transformation. "Circular tourism" refers to a paradigm in the tourism industry where all parties involved, from visitors to local communities and Destination Management Organizations (DMOs), practice eco-consciousness. Digitalization and environmentally responsible business practices are two things that companies in the tourism industry need to implement to maintain their competitive advantage in the face of shifting tourist behavior, increased environmental concerns, and expanding market demands.

Tourism may be a boon to economies around the world, but it has serious negative consequences for ecosystems and puts a strain on local resources. It is critical to transition the existing business enterprise production models since the current linear economy models cause externalities. The CE

literature is mostly focused on the industrial sector and pays very little attention to the tourism business. There is a lack of published literature clear recommendations for how the tourism industry may move to a CE.

5.1 Limitations of the Study

The current study contains a few limitations. A qualitative study of this nature may reveal the researchers' biases and preconceived notions on the subject matter. Researchers may exhibit biases at various phases of the data analysis process due to the intrinsic characteristics of this methodology.

This study is limited by extracting data only from the Scopus database. Although it is a highly regarded database with extensive coverage recognized by the academic community, future research should replicate the study using other databases, such as Web of Science or PubMed, and should include publications in languages other than English to improve the comprehensiveness of this research domain.

The content analysis revealed topics which need more in-depth analyses in future research, as well as studies that address the shortcomings of the current study by incorporating a wider range of journals over a longer period of time, looking at scholarly contributions through citations, and providing different representations of the literature. We suggest starting a research initiative to help tourism businesses undergo digital transformation. This agenda's primary objectives should be to develop a theoretical framework and gather empirical inputs, with an emphasis on the characteristics that set tourism and hospitality businesses apart and impede the use of emerging twin transition in this industry.

5.2 Future Research Directions

The current study aims to give future scholars theoretical guidance to help them better direct their scientific contributions in the digital and circular domains within the tourism businesses. First, research avenue's focus is on understanding the abilities and credentials needed to achieve the CE. We urge scholars to concentrate on identifying new skills, competencies, and responsibilities in the tourism industry that require qualified experts. The next line of inquiry sheds light on a gap in the current literature on geographical regions. Most of the scholarly work in this area is written from the mixed perspective of both the developed and from the developing nations (see Figure 3). The need to acquire digital and circular skills in the tourism industry has led to the emergence of a new line of inquiry which considers regional and geographical variations in the evolution of twin transition and its professional formalization.

A compelling avenue for future research is the incorporation of tourists' behavioral approaches to provide a more comprehensive understanding of sustainable development within the tourism sector. Future studies may investigate how employees in the tourism business navigate twin

transitions' impact on their employment. In future, numerous facets of the CE will likely require further examination.

Acknowledgement and Sponsoring Information

The authors have no acknowledgements or sponsoring information to declare.

References

- Agamuthu, P. (2013). Landfilling in developing countries. *Waste Management & Research*, 31(1), 1-2.
- Agostini, L., Galati, F., & Gastaldi, L. (2020). The digitalization of the innovation process: Challenges and opportunities from a management perspective. *European journal of innovation management*, 23(1), 1-12.
- Amasuomo, E., & Baird, J. (2016). The concept of waste and waste management. *J. Mgmt. & Sustainability*, 6, 88.
- Amicarelli, V., Aluculesei, A. C., Lagioia, G., Pamfilie, R., & Bux, C. (2022). How to manage and minimize food waste in the hotel industry: An exploratory research. *International Journal of Culture, Tourism and Hospitality Research*, 16(1), 152-167.
- Archer, B., Cooper, C., & Ruhanen, L. (2012). The positive and negative impacts of tourism. In *Global tourism* (pp. 79-102). Routledge.
- Aulisio, A., & Pereno, A. (2024). Regenerative design approach for twin transition in travel and tourism sector. In *For nature/with nature: New sustainable design scenarios* (pp. 895-913). Cham: Springer Nature Switzerland.
- Azam, M., Alam, M. M., & Hafeez, M. H. (2018). Effect of tourism on environmental pollution: Further evidence from Malaysia, Singapore and Thailand. *Journal of cleaner production*, 190, 330-338.
- Azarmi, S. L., Vaziri, R., Kole, A., Oladipo, A. A., & Göksel, A. B. (2019). Environmental impact of the ugly face of tourism: Pollution and management perspectives. In *The Routledge handbook of tourism impacts* (pp. 312-326). Routledge.
- Bang-Ning, H., Jitanugoon, S., & Puntha, P. (2025). AI-Powered Sustainable Tourism: Unlocking Circular Economies and Overcoming Resistance to Change. *Business Strategy and the Environment*.
- Briedenhann, J., & Wickens, E. (2004). Tourism routes as a tool for the economic development of rural areas—vibrant hope or impossible dream?. *Tourism management*, 25(1), 71-79.
- Buhalis, D. (1998). Strategic use of information technologies in the tourism industry. *Tourism management*, 19(5), 409-421.

- Buhalis, D., Leung, X. Y., Fan, D., Darcy, S., Chen, G., Xu, F., ... & Farmaki, A. (2023). Tourism 2030 and the contribution to the sustainable development goals: the tourism review viewpoint. *Tourism review*, 78(2), 293-313.
- Bux, C., & Amicarelli, V. (2023). Circular economy and sustainable strategies in the hospitality industry: Current trends and empirical implications. *Tourism and Hospitality Research*, 23(4), 624-636.
- Chen, T., & Liu, G. (2025). Global perspectives on environmental policy innovations: Driving green tourism and consumer behavior in circular economy. *Journal of Environmental Management*, 374, 124138.
- Collini, L., & Hausemer, P. (2024). Place-based pathways for the twin transition: the role of systemic change agents. *Competitiveness Review: An International Business Journal*, 34(5), 864-878.
- Damioli, G., Bianchini, S., & Ghisetti, C. (2025). The emergence of a 'twin transition' scientific knowledge base in the European regions. *Regional Studies*, 59(1), 2355998.
- De Martino, M., Apicerni, V., & Gravagnuolo, A. (2025). Sustainable hospitality and tourism in the Anthropocene era: the need for a more radical shift of the current circular economy models. *International Journal of Contemporary Hospitality Management*, 37(1), 57-75.
- Del Vecchio, P., Malandugno, C., Passiante, G., & Sakka, G. (2022). Circular economy business model for smart tourism: the case of Ecobnb. *EuroMed Journal of Business*, 17(1), 88-104.
- Ekka, P. M. (2024). Halal tourism beyond 2020: concepts, opportunities and future research directions. *Journal of Islamic Marketing*, 15(1), 42-58.
- Elkhwesky, Z., El Manzani, Y., & Elbayoumi Salem, I. (2024). Driving hospitality and tourism to foster sustainable innovation: A systematic review of COVID-19-related studies and practical implications in the digital era. *Tourism and Hospitality Research*, 24(1), 115-133.
- Fatema, K., Sinnappan, P., Meng, C. S., & Watabe, M. (2024). Technological advancements and innovations in the tourism industry: driving sustainable tourism. In *The need for sustainable tourism in an era of global climate change: Pathway to a greener future* (pp. 121-149). Emerald Publishing Limited.
- Filimonau, V., & Delysia, A. (2019). Food waste management in hospitality operations: A critical review. *Tourism management*, 71, 234-245.
- Gallego-Schmid, A., Vásquez-Ibarra, L., Guerrero, A. B., Henninger, C. E., & Rebolledo-Leiva, R. (2025). Circular economy in a recently transitioned high-income country in Latin America and the Caribbean: Barriers, drivers, strengths, opportunities, key stakeholders and priorities in Chile. *Journal of Cleaner Production*, 486, 144429.

- Gao, X. (2025). The EU's twin transitions towards sustainability and digital leadership: a coherent or fragmented policy field?. *Regional Studies*, 59(1), 2360053.
- Giri, R., & Chaudhuri, S. K. (2021). Ranking journals through the lens of active visibility. *Scientometrics*, 126(3), 2189-2208.
- Gül, H., Çağatay, S., & Gartner, W. C. (2025). Fossil fuel and resource use impacts of raw material substitution and recycling in tourism sector in Türkiye: Evidence from circular economy adjusted input-output matrix. *Current Issues in Tourism*, 28(15), 2480-2499.
- Gusmerotti, N. M., Carlesi, S., Iannuzzi, T., & Testa, F. (2024). The role of tourism in boosting circular transition: a measurement system based on a participatory approach. *Journal of Sustainable Tourism*, 32(5), 961-985.
- Heimerl, F., Lohmann, S., Lange, S., & Ertl, T. (2014, January). Word cloud explorer: Text analytics based on word clouds. In 2014 47th Hawaii international conference on system sciences (pp. 1833-1842). IEEE.
- Hennchen, B. (2019). Knowing the kitchen: Applying practice theory to issues of food waste in the food service sector. *Journal of Cleaner Production*, 225, 675-683.
- Horn, C., & Felt, U. (2025). On the environmental fragilities of digital solutionism. Articulating 'digital' and 'green' in the EU's 'twin transition'. *Journal of Environmental Policy & Planning*, 1-19.
- Husamoglu, B., Akova, O., & Cifci, I. (2025). Regenerative stakeholder framework in tourism. *Tourism Review*, 80(2), 433-455.
- Hussain, S., & Soni, G. (2025). Sustainable Waste Management Practices in the Hospitality Industry: Towards Environmental Responsibility and Economic Viability. In *Sustainable Waste Management in the Tourism and Hospitality Sectors* (pp. 91-124). IGI Global Scientific Publishing.
- Ioannidis, A., Chalvatzis, K. J., Leonidou, L. C., & Feng, Z. (2021). Applying the reduce, reuse, and recycle principle in the hospitality sector: Its antecedents and performance implications. *Business Strategy and the Environment*, 30(7), 3394-3410.
- Jain, N. K., Panda, A., & Arghode, V. (2024). Tourism's circular economy: Opportunities and challenges from an integrated theoretical perspective. *Business Strategy and the Environment*, 33(7), 6172-6186.
- Kasavan, S., Mohamed, A. F., & Halim, S. A. (2019). Drivers of food waste generation: Case study of island-based hotels in Langkawi, Malaysia. *Waste management*, 91, 72-79.
- Kasim, A. (2006). The need for business environmental and social responsibility in the tourism industry. *International journal of hospitality & tourism administration*, 7(1), 1-22.

- Kibler, K. M., Reinhart, D., Hawkins, C., Motlagh, A. M., & Wright, J. (2018). Food waste and the food-energy-water nexus: A review of food waste management alternatives. *Waste management*, 74, 52-62.
- Khan, O. (2025). Catalysts of circular transformation: unveiling behavioural intention and absorptive capacity in European hotels. *Current Issues in Tourism*, 1-16.
- Khan, O., Bellini, N., Daddi, T., & Iraldo, F. (2023). Effects of behavioral intention and dynamic capabilities on circular economy adoption and performance of tourism SMEs. *Journal of Sustainable Tourism*, 31(8), 1777-1796.
- Kong, H., Qiu, X., Wang, K., Bu, N., Cheung, C., & Zhang, N. (2025). Exploring Chinese sustainable tourism: a 25-year perspective. *Journal of Sustainable Tourism*, 33(7), 1373-1391.
- Kuo, N. W., & Chen, P. H. (2009). Quantifying energy use, carbon dioxide emission, and other environmental loads from island tourism based on a life cycle assessment approach. *Journal of cleaner production*, 17(15), 1324-1330.
- Kyara, V. C., Rahman, M. M., & Khanam, R. (2022). Investigating the environmental externalities of tourism development: evidence from Tanzania. *Heliyon*, 8(6).
- Li, G., Yang, X., Liu, Q., & Zheng, F. (2014). Destination island effects: A theoretical framework for the environmental impact assessment of human tourism activities. *Tourism Management Perspectives*, 10, 11-18.
- Ma, S., Zhou, C., Pan, J., Yang, G., Sun, C., Liu, Y., ... & Zhao, Z. (2022). Leachate from municipal solid waste landfills in a global perspective: Characteristics, influential factors and environmental risks. *Journal of Cleaner Production*, 333, 130234.
- Magnusson, T., Karabag, S. F., Wigger, K., & Andersson, G. (2024). Sustainability transitions in tourism: on the transformation of a fragmented sector. *Tourism Geographies*, 26(2), 157-172.
- Manniche, J., Larsen, K. T., & Broegaard, R. B. (2021). The circular economy in tourism: transition perspectives for business and research. *Scandinavian Journal of Hospitality and Tourism*, 21(3), 247-264.
- Martínez-Falcó, J., Marco-Lajara, B., Zaragoza-Saez, P. D. C., & Millan-Tudela, L. A. (2024). Do circular economy practices moderate the wine tourism–green performance relationship? A structural analysis applied to the Spanish wine industry. *British Food Journal*, 126(1), 134-155.

- Massaro, M., Secinaro, S., Dal Mas, F., Brescia, V., & Calandra, D. (2021). Industry 4.0 and circular economy: An exploratory analysis of academic and practitioners' perspectives. *Business Strategy and the Environment*, 30(2), 1213-1231.
- Mateu-Sbert, J., Ricci-Cabello, I., Villalonga-Olives, E., & Cabeza-Irigoyen, E. (2013). The impact of tourism on municipal solid waste generation: The case of Menorca Island (Spain). *Waste management*, 33(12), 2589-2593.
- Meyer, D. F., & Meyer, N. (2015). The role and impact of tourism on local economic development: a comparative study and leisure. *African Journal for Physical Health Education, Recreation and Dance*, 21(1.1), 197-214.
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Bmj*, 339.
- Mora, D., Moral-Cuadra, S., Lopez-Guzman, T., & Aguilar-Rivero, M. (2025). Circular economy practices in wine tourism: Environmental policies and strategies for the development of wine routes in Spain. *International Journal of Gastronomy and Food Science*, 39, 101122.
- Mosgaard, M. A., Kristensen, H. S., & Bocken, N. (2025). Competition or coopetition? Collaboration strategies for the circular economy. *Journal of Cleaner Production*, 145686.
- Murphy, J., Gretzel, U., Pesonen, J., & Elorinne, A. L. (2019). Wicked problem: Reducing food waste by tourist households. *Gastronomy and Tourism*, 3(4), 247.
- Myshko, A., Checchinato, F., Colapinto, C., Finotto, V., & Mauracher, C. (2024). Towards the twin transition in the agri-food sector? Framing the current debate on sustainability and digitalisation. *Journal of Cleaner Production*, 452.
- Obersteiner, G., Gollnow, S., & Eriksson, M. (2021). Carbon footprint reduction potential of waste management strategies in tourism. *Environmental Development*, 39, 100617.
- Oktriono, K., Kurniawan, T. A., Meidiana, C., Wong, W. K., Wou Onn, C., Pasaribu, B., ... & Kusuma, H. S. (2025). Reinforcing synergy between circular economy in tourism and decarbonization in waste sector using digitalization: Case study in Taipei and Sukunan (Indonesia) in promoting carbon neutrality. *Waste Management & Research*, 43(10), 1605-1624.
- Okumus, B., Taheri, B., Giritlioglu, I., & Gannon, M. J. (2020). Tackling food waste in all-inclusive resort hotels. *International Journal of Hospitality Management*, 88, 102543.
- Oyedele, L. O., Regan, M., Von Meding, J., Ahmed, A., Ebohon, O. J., & Elnokaly, A. (2013). Reducing waste to landfill in the UK: identifying impediments and critical solutions. *World Journal of Science, Technology and Sustainable Development*, 10(2), 131-142.

- Özdemir, G., & GÜÇER, E. (2018). Food waste management within sustainability perspective: A study on five star chain hotels. *Journal of Tourism & Gastronomy Studies*, 6(1), 280-299.
- Pace, L. A. (2016). How do tourism firms innovate for sustainable energy consumption? A capabilities perspective on the adoption of energy efficiency in tourism accommodation establishments. *Journal of cleaner production*, 111, 409-420.
- Papargyropoulou, E., Wright, N., Lozano, R., Steinberger, J., Padfield, R., & Ujang, Z. (2016). Conceptual framework for the study of food waste generation and prevention in the hospitality sector. *Waste management*, 49, 326-336.
- Pathak, M., & Hajoary, P. K. (2024). Reconciling tourism competitiveness with circularity: An IFI framework for policy intervention from a developing perspective. *International Journal of Global Business and Competitiveness*, 1-9.
- Pirani, S. I., & Arafat, H. A. (2016). Reduction of food waste generation in the hospitality industry. *Journal of cleaner production*, 132, 129-145.
- Pongsakornrunsilp, P., & Pongsakornrunsilp, S. (2023). Mindful tourism: nothing left behind—creating a circular economy society for the tourism industry of Krabi, Thailand. *Journal of Tourism Futures*, 9(3), 366-380.
- Prakash, S., Sharma, V. P., Singh, R., Vijayvargy, L., & Nilaish. (2023). Adopting green and sustainable practices in the hotel industry operations-an analysis of critical performance indicators for improved environmental quality. *Management of Environmental Quality: An International Journal*, 34(4), 1057-1076.
- Puig-Denia, A., Fernández-Yáñez, J. M., & Forés, B. (2025). Circular economy in the tourism sector from a family business perspective: the case of Iberostar. *Sustainable Futures*, 9, 100617.
- Rasul, M. (2024). *The Digital Revolution: How Technology Is Shaping the Global Economy. In Energy Crisis and Its Impact on Global Business* (pp. 256-287). IGI Global.
- Rodríguez, C., Florido, C., & Jacob, M. (2020). Circular economy contributions to the tourism sector: A critical literature review. *Sustainability*, 12(11), 4338.
- Saenz-de-Miera, O., & Rosselló, J. (2014). Modeling tourism impacts on air pollution: The case study of PM10 in Mallorca. *Tourism Management*, 40, 273-281.
- Sariatli, F. (2017). Linear economy versus circular economy: a comparative and analyzer study for optimization of economy for sustainability. *Visegrad Journal on Bioeconomy and Sustainable Development*, 6(1), 31-34.

- Schotten, M., Meester, W. J., Steiginga, S., & Ross, C. A. (2017). A brief history of Scopus: The world's largest abstract and citation database of scientific literature. In *Research analytics* (pp. 31-58). Auerbach Publications.
- Scott, D., Hall, C. M., & Stefan, G. (2012). *Tourism and climate change: Impacts, adaptation and mitigation*. Routledge.
- Shaheen, N., Shaheen, A., Ramadan, A., Hefnawy, M. T., Ramadan, A., Ibrahim, I. A., ... & Flouty, O. (2023). Appraising systematic reviews: a comprehensive guide to ensuring validity and reliability. *Frontiers in research metrics and analytics*, 8, 1268045.
- Sigala, M. (2018). New technologies in tourism: From multi-disciplinary to anti-disciplinary advances and trajectories. *Tourism management perspectives*, 25, 151-155.
- Singh, G., Mittal, R., & Ahmad, M. (2007). A bibliometric study of literature on digital libraries. *The electronic library*, 25(3), 342-348.
- Siriwong, C., Pongsakornrunsilp, S., Pongsakornrunsilp, P., & Kumar, V. (2025). Mindful mindsets and rural community characteristics in promoting sustainable rural tourism and facilitating the tangible implementation of the circular economy. *Journal of Tourism Futures*.
- Sheldon, P. J. (2022). The coming-of-age of tourism: embracing new economic models. *Journal of Tourism Futures*, 8(2), 200-207.
- Sheng, L., Li, T., & Wang, J. (2017). Tourism and externalities in an urban context: Theoretical model and empirical evidence. *Cities*, 70, 40-45.
- Sørensen, F., & Bærenholdt, J. O. (2020). Tourist practices in the circular economy. *Annals of Tourism Research*, 85, 103027.
- Streimikiene, D., Svagzdiene, B., Jasinskas, E., & Simanavicius, A. (2021). Sustainable tourism development and competitiveness: The systematic literature review. *Sustainable development*, 29(1), 259-271.
- Sundt, P. (2012). *Prevention of food waste in restaurants, hotels, canteens and catering*. Nordic Council of Ministers.
- Suri, H., & Clarke, D. (2009). Advancements in research synthesis methods: From a methodologically inclusive perspective. *Review of Educational Research*, 79(1), 395-430.
- Tansel, B. (2017). From electronic consumer products to e-wastes: Global outlook, waste quantities, recycling challenges. *Environment international*, 98, 35-45.
- Telfer, D. J., & Wall, G. (1996). Linkages between tourism and food production. *Annals of tourism Research*, 23(3), 635-653.



- Tomassini, L., Baggio, R., Cavagnaro, E., Farsari, I., Fuchs, M., & Sørensen, F. (2025). Circular economy in tourism and hospitality: A micro-meso-macro framework for inter-disciplinary research. *Tourism and Hospitality Research*, 25(4), 718-725.
- Tomassini, L., & Cavagnaro, E. (2022). Circular economy, circular regenerative processes, a growth and placemaking for tourism future. *Journal of Tourism Futures*, 8(3), 342-345.
- Truong, D., Duc, K. N., & Dinh, N. C. (2024). Circular economy essentials. In *Navigating the circular age of a sustainable digital revolution* (pp. 1-26). IGI Global.
- Vargas-Sánchez, A. (2018). The unavoidable disruption of the circular economy in tourism. *Worldwide Hospitality and Tourism Themes*, 10(6), 652-661.
- Vargas-Sanchez, A. (2023). Toward a circular tourism industry: the importance of a start-up ecosystem. *Worldwide Hospitality and Tourism Themes*, 15(6), 625-632.
- Veit, D. J., & Thatcher, J. B. (2023). Digitalization as a problem or solution? Charting the path for research on sustainable information systems. *Journal of business economics*, 93(6), 1231-1253.
- Velasco-Muñoz, J. F., López-Felices, B., Román-Sánchez, I. M., & Hernández-Rojas, R. (2025). Implementation of the theoretical framework of the circular economy in the tourism sector. *Current Issues in Tourism*, 1-27.
- Waltman, L., Van Eck, N. J., & Wouters, P. (2013). Counting publications and citations: Is more always better?. *Journal of Informetrics*, 7(3), 635-641.
- Wei, Y., & Liu, Q. (2023). How does the travel and tourism industry contribute to sustainable resource management? The moderating role of ICT in highly resource-consuming countries. *Resources Policy*, 82, 103536.
- Wight, P. A. (2002). Supporting the principles of sustainable development in tourism and ecotourism: government's potential role. *Current Issues in Tourism*, 5(3-4), 222-244.
- Yang, W., & Lin, Y. (2022). Research on the interactive operations research model of e-commerce tourism resources business based on big data and circular economy concept. *Journal of Enterprise Information Management*, 35(4-5), 1348-1373.
- Yeow, A., Soh, C., & Hansen, R. (2018). Aligning with new digital strategy: A dynamic capabilities approach. *The Journal of Strategic Information Systems*, 27(1), 43-58.
- Yong, R. Y. M., Chua, B. L., Han, H., & Fakfare, P. (2025). Advancing service automation technology in tourism for sustainable development goals: a review and agenda for theories, contexts, methodologies and actions. *Journal of Travel & Tourism Marketing*, 42(4), 381-414.



- Zaman, A. U. (2016). A comprehensive study of the environmental and economic benefits of resource recovery from global waste management systems. *Journal of cleaner production*, 124, 41-50.
- Zambrano-Monserrate, M. A., Ruano, M. A., & Ormeño-Candelario, V. (2021). Determinants of municipal solid waste: a global analysis by countries' income level. *Environmental Science and Pollution Research*, 28(44), 62421-62430.
- Zorpas, A. A., Navarro-Pedreño, J., Panagiotakis, I., & Dermatas, D. (2021). Steps forward to adopt a circular economy strategy by the tourism industry. *Waste Management & Research*, 39(7), 889-891.