

Sustainable hospitality and tourism in the Anthropocene era: the need for a more radical shift of the current circular economy models

Sustainable
hospitality and
tourism

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Received 19 June 2023
Revised 2 December 2023
1 February 2024
19 March 2024
31 March 2024
Accepted 3 April 2024

Abstract

Purpose – This paper aims to critically analyse the circular economy (CE) models adopted in hospitality and tourism to tackle societal challenges in the current Anthropocene era, exploring the driving values and sustainability approaches.

Design/methodology/approach – A systematic literature review was carried out with an increasing level of analysis to delve more in-depth into the ability of the CE models to respond to current societal challenges. The review involved a stepwise analysis, starting with a thematic analysis of 151 papers to create a conceptual structure map of circular hospitality and tourism literature. Based on originality and representativeness, 22 papers were selected and analysed according to Hoffman and Jennings' (2018; 2021) institutional approach to sustainability, which entails specific archetypes to address the Anthropocene society: market rules, technology fix and cultural re-enlightening.

Findings – The hospitality and tourism industry has made progress towards implementing CE models. However, CE models in market role and technology fix archetypes may fail to address the current challenges of the Anthropocene era. New culture-led approaches within the cultural re-enlightening archetype, such as

The authors would like to sincerely thank Valentina Carbone, Professor of Sustainability and Supply Chain Management and Director of the PhD Programme at ESCP Business School (Paris Campus), for the valuable comments and suggestions that helped them in drafting and improving the quality of the manuscript. The authors are also grateful to the anonymous reviewers for the critical and constructive feedback and for taking the time and effort necessary to review it.

Funding: This research was funded under the framework of Horizon 2020 research project Be.CULTOUR “Beyond cultural tourism”. This project has received funding from the European Union’s Horizon 2020 research and innovation program under Grant Agreement No. 101004627.



the regenerative land practices, a-growth and place-making, and circular society, can foster a more radical shift towards strong sustainability.

Research limitations/implications – The paper highlights the urgent need for a cultural shift towards radical and strong sustainability, identifying future research directions. Policymakers have a crucial role in shaping sustainability practices consistent with an ecological culture centred on acknowledging planetary boundaries.

Originality/value – Despite the increasing interest in CE models, it is still debated how the hospitality and tourism industry can continue to thrive while avoiding harmful impacts on the environment and local communities. The study critically reflects on the current contribution of CE models towards strong sustainability in hospitality and tourism.

Keywords Circular economy models, Anthropocene society, Institutional approach, Archetypes, Sustainability

Paper type Research paper

Highlights

- The paper critically analyses the circular economy models adopted in the hospitality and tourism industry to tackle societal challenges in the current Anthropocene era.
- It explores the driving values and sustainability approaches of circular economy models in tourism and hospitality according to different possible archetypes/scenarios: market rules, technology fix and cultural re-enlightening.
- It also addresses the need for a radical shift of current circular economy models towards strong sustainability and culture-led approaches.

1. Introduction

Sustainability and resilience have gathered new momentum in hospitality and tourism since the COVID-19 pandemic, as the general attention to safety and quality management, as well as to health and well-being – which are influenced by ecosystem health – is rising (Alreahi *et al.*, 2023; Aydogan *et al.*, 2024; Salem *et al.*, 2023). The fragility of the tourism and hospitality industry was exposed due to lockdowns and travel restrictions, requiring the renewed attention of tourism stakeholders and businesses to resilience and contingency measures, especially in the countries and regions most dependent on tourism (Gautam, 2023; Rastegar *et al.*, 2023). On the other hand, stopping many activities seemed to allow for a temporary return to a healthier environment, stimulating a general reflection on more balanced lifestyles with fewer harmful effects on people and ecosystems. However, many different activities, including tourism, restarted growth in the same unsustainable way even immediately after boundaries reopened during the COVID-19 pandemic (Vourdoubas, 2023).

This upheaval in the tourism industry is coupled with the urgent need to cope with the grand challenges of a generally unsustainable production and consumption models connected to natural resource depletion, biodiversity loss and climate change, as highlighted by scholars and international organizations (Pan *et al.*, 2023; IPCC, 2021). These challenges are symptomatic of the unbalanced and harmful relationship between humans and the environment that characterizes the Anthropocene era. The Anthropocene is a term used to describe the current geologic epoch which is dominated by human activities. This epoch can be traced back to the industrial revolution, during which human activities have increasingly impacted the environment, putting the health of humans and ecosystems at risk. Urgent actions and awareness rise are required to slow, halt and reverse current growth models (Raworth, 2017; Pollin, 2016).

The tourism industry has seen an exponential rise in the past few decades. It is a large complex services system that includes various economic sectors such as hospitality, transport, construction, food, crafts, events and others. However, this growth has led to the over-consumption of resources, greenhouse gas emissions, pollution and negative social and cultural impacts both locally and globally (Gössling and Peters, 2015; Gössling, 2002).

This paper aims to offer a critical analysis of circular economy (CE) models in hospitality and tourism studies, exploring the variety of approaches and frameworks currently used to reach sustainability in the industry. To this end, a systematic literature review was carried out with an increasing level of analysis, starting with the identification of well-established and emerging themes in the literature and then delving more in-depth into the ability of the relevant CE models to respond to current Anthropocene challenges. The paper is structured as follows. After describing in Section 2 the main sustainable challenges in the hospitality and tourism industry, Section 3 introduces the possible archetypes/scenarios in the Anthropocene era from an institutional approach (Hoffman and Devereaux-Jennings, 2018; 2021). Section 4 describes the research methodology, which combines the thematic map analysis with the content analysis of CE models and frameworks in hospitality and tourism literature. Section 5 thus plots the conceptual structure map of circular hospitality and tourism literature, identifying well-established, emerging, declining and niche themes. In Section 6, CE models and practices are explored in relation to three archetypes/scenarios: market rules, technology fix and cultural re-enlightening. Section 7 discusses the results and provides future research directions to broaden the understanding of CE models into the realm of strong sustainability. Conclusions and implications are finally presented in Section 8.

2. Sustainable challenges and circular economy in hospitality and tourism

The hospitality and tourism industry raises a strong contradiction in the human–nature relationship because while nature is among the primary resources that make tourist destinations attractive, the industry can lead to severe destruction and depletion of these resources (Molina-Collado *et al.*, 2022). High carbon emissions generated by the increasing number of air travellers, excessive consumption of energy and waste of water and food, and the effects of “over-tourism” on sensitive natural and cultural destinations are some examples of unsustainable practices. Tourism combines and depends on different sectors, such as air transport, retail, construction, beverage and food, which contribute significantly to climate change (Bocken and Short, 2021). In 2020, tourism’s contribution to the world’s total global greenhouse gas (GHG) emissions was around 10%, and air transport accounted for about 40% of tourism’s impact (UNEP, 2021). Considering, for example, the cruise industry, it is estimated that the GHG emissions of a large cruise ship are more significant than those generated by 12,000 cars, and a ship of 2,700 passengers produces about a ton of waste per day (Lloret *et al.*, 2021). Beyond the negative environmental impacts, there are also ethical and responsibility issues, considering that just 1% of the world population of high-income countries causes more than half of these emissions (Holden *et al.*, 2022). Furthermore, the overuse and depletion of natural resources generated by tourism-based recreation activities (e.g. golf courses and swimming pools) create disparities between tourists and local inhabitants, often resulting in increases in prices and cost of living.

However, tourism and hospitality can ignite a positive change in local communities by creating jobs and fostering entrepreneurship, especially in less developed and deprived areas. In addition, tourists are becoming more aware of the impact of their travel and are increasingly interested in environmentally responsible consumption behaviour. This trend

can have a significant effect on the long-term sustainability of tourism and hospitality (Lin *et al.*, 2022). So, how can hospitality and tourism continue to thrive in the Anthropocene era, reaching sustainability with minimal harmful impacts? It is evident that there is a pressing need for tourism and hospitality scholars to investigate and develop innovative and effective solutions that can mitigate negative environmental impacts, foster sustainable behaviours and encourage climate change adaptation. It is important to ensure that these solutions are implemented with fairness, social justice and a sense of public responsibility, to achieve a “just transition” towards a more sustainable future (Pianta and Lucchese, 2020).

The CE has become increasingly popular in recent years as a potential strategy for implementing sustainable development models (Geissdoerfer *et al.*, 2017; Gravagnuolo *et al.*, 2019). It is thought to be capable of “decoupling growth from resources consumption” and offers an alternative to the traditional “take-make-dispose” models of production and consumption (Kirchherr *et al.*, 2017). The focus of CE is on the reuse and recycling of materials, and it aims to close the loop of natural resource consumption by generating energy from renewable sources, preventing natural resource depletion and reducing greenhouse gas emissions (Ellen MacArthur Foundation, 2013). Currently, CE practices are gaining attention in the hospitality and tourism industry, as a means to promote sustainability in the Anthropocene era (Kaszás *et al.*, 2022; Holden *et al.*, 2022). However, while reducing resource consumption and managing/recycling waste are important aspects addressed in CE practices, there is a need to focus more on protecting ecosystems and regenerating biodiversity, as a response to the unsustainability of current economic models (Bux and Amicarelli, 2023).

3. Scenarios in the Anthropocene era: an institutional approach

Hoffman and Devereaux-Jennings (2018; 2021) have proposed an institutional approach that is highly effective in analysing and exploring possible scenarios in the Anthropocene era. This approach considers external economic, political and social factors that shape a company’s strategy and legitimize its business practice in the eyes of various stakeholders (Devereaux-Jennings and Zandbergen, 1995). It explains how social values, technological progress and policies affect firms’ decisions to change business practices towards sustainability (Hoffman and Ehrenfeld, 2014). Archetypes are ideal representations of the values and actions of a social group, and they represent tools for exploring patterns of behaviours in the rapidly changing and dynamic business environment. In organizational theory, an archetype is a set of design and structural elements that systematically embodies common values and interpretative schema, which helps to understand new social orders. Hoffman and Devereaux-Jennings (2018) identified a set of archetypes in the “Anthropocene Society” – structuring the spectrum of possibilities between dystopian and utopian scenarios – which were shaped by the following dominant logics: the denial of the Anthropocene grand challenges and the collapse of our societies (collapsing systems); the persistence of market logic within the search of sustainability (market rules); the search for innovative solutions through technology (technology fix); or the cultural renaissance mindset shift towards radical sustainability (cultural re-enlightening). Because there are many possible future Anthropocene Societies, each archetype embodies different ways of thinking, envisioning, acting and sharing values and beliefs among social groups and organizations to face current challenges. Moreover, such future scenarios can emerge as interweaving of different archetypes due to the establishment of multiple orders in the political contest. The archetypes are thus presented below.

In the “Collapsing System” archetype, the increasing complexity and chaos within the institutional environment and the loss of any social order cause isolated collapses that, by

chain reaction, destroy the ecosystem in unpredictable ways. There is no underlying idea in searching for solutions because this dystopian scenario is characterized by multiple constellations of information and contrary assessments from different bodies, often disseminated in pursuit of ideological or libertarian interests. Social media channels play a role in amplifying disorientation through the risk of quick diffusion of fake news, expertise de-legitimation and the spread of viral content. As society increasingly engages with digital tools, trying to make sense of conflicting information, it risks moving away from the “real” world. As this archetype is mainly related to a society that has identified no solution for the challenges of climate change, it is not explored further.

In the “market rules” archetype, economic values dominate the institutional structures of society, aiming for market growth while achieving sustainability goals. The environment is seen here as an “asset” to be exploited to provide advantages to humanity by establishing instrumental relationships with nature. The underlying idea is that the market can solve sustainability issues, generating business opportunities and resources. This logic can also be found in the literature on business and society, such as the “shared value” approach (Porter and Kramer, 2011), which promotes and celebrates the power of business to cope with contemporary societal challenges. The green growth paradigm fits the market rules archetype on a macro scale.

In the “technology fix” archetype, science and engineering support society’s progress while reducing its impact on the environment. This archetype shares with the previous one its hybrid nature, aimed at combining the pursuit of economic value creation with providing solutions to sustainability challenges. The underlying idea is that technology will profoundly and positively impact the Anthropocene society, freeing humanity from dependence on natural resources. Tech-fix entrepreneurs would be those that provide tools able to “solve the problem”. The possible unintended social consequences of tech innovation should also be considered in this archetype.

In both market rules and technology fix archetypes, attempts are made to preserve today’s way of life, trusting the market (green growth) or technology (tech/engineering solutions) without the need to exit the capitalist economy. The next archetype explicitly challenges these assumptions.

In the “cultural re-enlightenment” archetype, a new society and sustainable production–consumption system would emerge from grassroots innovation, local communities’ empowerment and global ethical engagement. It assumes a profound change in beliefs, behaviour and lifestyles. The underlying idea is that unsustainable market rules and technologies are the root cause of the Anthropocene, which could be changed only through a profound cultural shift: the Anthropocene is not a problem that can be fixed with the same mindset that generated it. A distinctive feature of this archetype is the explicit balance between ecological and social dimensions of sustainability.

4. Methodology of the research

The research methodology combines the thematic map analysis with the content analysis to study CE models and frameworks in the hospitality and tourism literature (Figure 1). The research began by searching for scientific papers published in the Web of Science (WoS) database. The search included the keywords “Circular AND Tourism” and “Circular AND Hospitality”; it returned a total of 298 documents published between 1995 and 2023. After screening the abstracts, literature reviews, bibliometric analysis and duplicated documents were removed. We thus selected 151 papers, which present a variety of circular models and frameworks as well as empirical evidence in the hospitality and tourism industry.

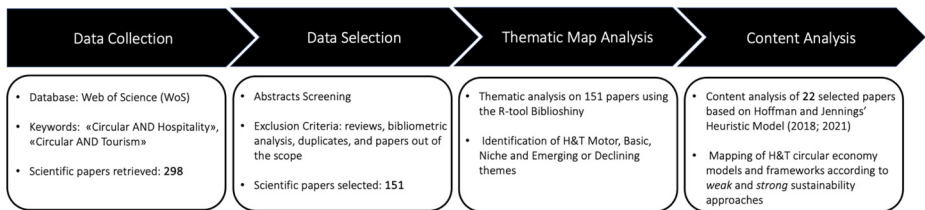
It is interesting to note the exponential rise of scientific publications since 2019, while in previous years, it was somewhat limited or absent (Figure 2).

A bibliometric mapping analysis, specifically a thematic map analysis, was thus conducted to identify well-established, niche, emerging and motor themes. Based on originality and representativeness, 22 papers were selected for further analysis using Hoffman and Jennings’ (2018; 2021) institutional approach to sustainability. The following sections present the results of the analyses conducted.

5. Thematic map analysis of circular hospitality and tourism literature

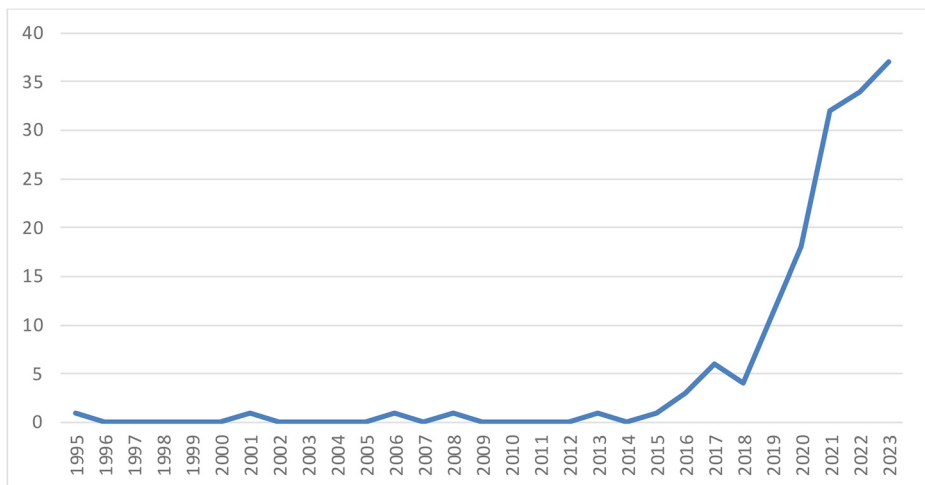
The Thematic map analysis was carried out on 151 papers using R-Tool Biblioshiny (Aria and Cuccurullo, 2017). This open-source statistical analysis software provides a set of tools for conducting quantitative research in bibliometrics. In particular, the software plots a conceptual structure map of a scientific field using multiple correspondence analysis and clustering keywords and their interconnections to obtain themes. The “Keywords Plus” function, which is automatically defined by Thomson Reuters’ algorithm in WoS, was used to identify the main research themes addressed in the selected studies. Unlike analysing the

Figure 1.
Methodology
flowchart



Source: Authors elaboration

Figure 2.
CE studies in H&T
literature from 1995
to 2023



Source: Authors elaboration

keywords assigned by authors, the “Keywords Plus” function can capture the content of an article with greater depth and variety (Tripathi *et al.*, 2018).

These themes were characterized by the density of occurrence (reported on the vertical axis) and their centrality within the relative group of studies (reported on the horizontal axis) (Callon *et al.*, 1991). Density measures the cluster network’s internal strength – the cohesiveness among the keywords – and delineates the theme’s level of development and maturity. On the other hand, centrality measures the degree of correlation among different topics, which in turn determined a research theme’s significance. Themes are represented by bubbles (Figure 3), whose size is determined by the word’s occurrence, divided into four quadrants (Q1–Q4): motor themes (i.e. well-established); niche themes (i.e. specific and narrowly focused); emerging (with potential for future development) or declining themes (addressed in the past); basic themes (relevant but intertwined motor themes).

The first quadrant, labelled “Motor themes”, includes management, economy, adaptation and hotels, and it shows themes with high density and centrality. These themes have been thoroughly developed and are currently considered crucial in the research field. Management theme is associated with different concepts, such as sustainability, performance (economic and environmental), impact and innovation, while the most recurring words associated with economy are: experience, corporate social responsibility, technology and ecotourism. The appearing words in the adaptation cluster are policy, determinants, competitiveness and destination, while in the “hotels” cluster are patterns, accommodation and Airbnb. The second quadrant, “niche themes”, includes “green practices”; it is a cluster with high density and low centrality, meaning specialized topics amongst scholars. This cluster refers to topics related to the concept of green growth, mainly adopted by the hotel industry. In the third quadrant of “emerging or declining themes”, politics, culture and city are clusters with low density and centrality, signifying that they

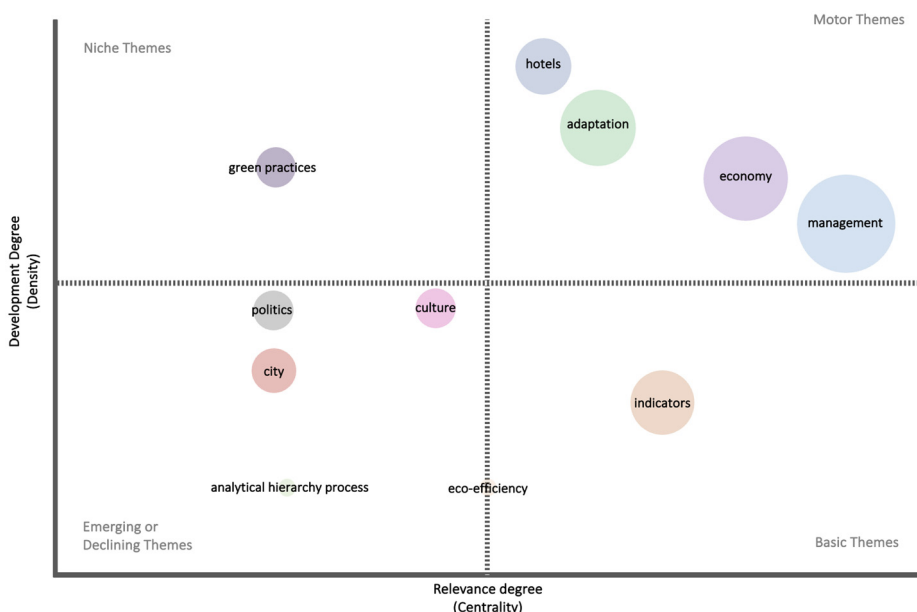


Figure 3.
Thematic map of the
H&T circular models
and frameworks

Source: Authors’ elaboration on R-Tool Biblioshiny

represent emerging topics to be further developed: instead, analytical hierarchy process and eco-efficiency are declining themes. It is interesting to note that the word most commonly associated with the theme of politics is “waste”, which is related to the issue of territorial governance models. On the other hand, the word associated with culture is “work”, suggesting the importance of human capital and organizational well-being. Finally, in the fourth quadrant of basic themes, the “indicators” theme represents a high centrality and low density cluster. Unlike niche themes, this theme is important and intertwined in the extant research (motor themes). the associated words are “heritage”, “travel”, “design” and “experience innovation”.

6. Hospitality and tourism circular models in the Anthropocene society

In this section, drawing on Hoffman and Devereaux-Jennings (2018; 2021) institutional approach, the diverse circular models in hospitality and tourism are explored. Table 1 shows the selected papers representative of one or more research themes, within the specific Anthropocene society archetype.

In the following sections, the selected studies are further examined in relation to each archetype, namely: market rules, technology fix and cultural re-enlightenment.

6.1 Market rules

The market rules archetype includes circular models and frameworks that stress the importance of reducing environmental externalities and preserving resources’ accessibility and social welfare for residents and local stakeholders while maintaining economic growth patterns (Bux and Amicarelli, 2023). Diverse CE studies and practices can be identified in relation to management and economy themes.

Authors	Research themes	Archetypes
Sorin and Sivarajah (2021)	Management/eco-efficiency	Market rules
Vargas-Sánchez (2021)	Economy	Market rules
Camilleri (2021)	Economy	Market rules
Manniche <i>et al.</i> (2021)	Economy/indicators	Market rules
Sørensen and Bærenholdt (2020)	Economy/adaptation	Market rules
de Grosbois and Fennell (2022)	Hotels/management	Market rules
Gomes and Lopes (2023)	Management	Market rules
Bilynets and Cvelbar (2022)	Economy/green practices	Market rules
Del Vecchio <i>et al.</i> (2022)	Management	Technology fix
Saura <i>et al.</i> (2022)	Hotels/management	Technology fix
Vo-Thanh <i>et al.</i> (2021)	Economy	Technology fix
Holden <i>et al.</i> (2022)	Adaptation	Technology fix
Vargas-Sánchez (2023)	Economy	Technology fix
Fuldauer <i>et al.</i> (2019)	Adaptation	Technology fix
Ateljevic (2020)	City	Cultural re-enlightening
Pala and Cetin (2022)	Indicators	Cultural re-enlightening
Inversini <i>et al.</i> (2022)	Indicators	Cultural re-enlightening
Nocca (2017)	City	Cultural re-enlightening
Bhagtani (2022)	Culture	Cultural re-enlightening
Sheldon (2022)	Culture	Cultural re-enlightening
Tomassini and Cavagnaro (2022)	City	Cultural re-enlightening
Jaeger-Erben <i>et al.</i> (2021)	Politics	Cultural re-enlightening

Table 1.
H&T circular
models: research
themes and
archetypes

Sorin and Sivarajah (2021) investigate how the CE can generate new business opportunities in the eco-efficiency management of hotels by reducing production costs while addressing negative externalities generated by their activities. Their “circular applicability framework” considers drivers, enablers and barriers to the practical applicability of CE along the supply chain and identifies possible value creation opportunities both upstream and downstream, such as operating and waste management costs reduction, energy consumption reduction, natural and social capital restoration, additional revenue streams and market differentiation. In the catering businesses, CE models can ensure economic returns while reducing environmental impact by creating sustainable menus with local procurement of products, reusing and recycling surplus foods through a sharing economy platform (Camilleri, 2021). According to Vargas-Sánchez (2021), hospitality and tourism firms can incorporate circularity principles into their business models due to external institutional pressures that require the adoption of sustainable environmental practices. In addition, internal factors, such as culture, can act as a driver of change and promote the integration of circularity principles within the organization.

Other studies have highlighted the significance of CE models as an effective means of promoting sustainable and responsible behaviours at the destination and in daily life, enabling tourists to actively engage with the local community, leading to sustainable experiences (Manniche *et al.*, 2021). Sørensen and Bærenholdt (2020) have also explored how tourist practices can pave the way for innovation and the development of CE models in the tourism and hospitality industry. The view of the tourists as co-creators of the tourism experience underscores the importance of sustainable consumption practices and patterns as a driver of CE business models. The study shows business opportunities in creating new services downstream of the supply chain, such as bicycle transport and routes, or providing information to tourists, by coordinating and involving local stakeholders during the tourism experience. There are also other cases of hotels that have implemented customer awareness campaigns concerning the responsible use of resources, such as energy and water, to reduce the tourism experience’s environmental impact (de Grosbois and Fennell, 2022). Tourism experience in green and circular hotels and destinations favours the development of pro-environmental behaviour, thus reducing negative externalities and tourists’ carbon footprint (Bilynets and Cvelbar, 2022) and providing an educational service. This issue is central to fostering awareness in tourists concerning their contribution to climate change, thereby maturing a willingness to adapt their holiday and daily behaviours to encourage collective and social welfare (Gomes and Lopes, 2023).

The studies in the market rules archetype adopt perspectives that could be labelled “business-centric” in which saving the planet can generate business opportunities and create jobs. In the business-centric approach, economic values dominate the institutional structures of society, and the environment is seen as an asset to be exploited through innovation and technology to provide advantages to humanity by establishing instrumental relationships with nature. New niche forms of circular tourism and hospitality, as well as the rethinking of massified types of tourism, should be designed and promoted through “symbiotic relationships between tourists, public actors, and the industry, in transport systems, destinations, and tourists’ countries of origin” (Kaszás *et al.*, 2022). In this regard, trust and cooperation among local stakeholders are the driving values and enablers of circular models, and new forms of sustainable tourism should be developed and promoted with the mindset of “little is better” in the sense of less speed (cycling, walking and travelling by trains instead of cars and airplanes), less distance (near-market tourism, staycation), less variety and the use of local products and services.

6.2 Technology fix

New technologies and digital tools are crucial in achieving a sustainable future in this archetype. A large body of research has been conducted in the hospitality and tourism to examine the link between technological innovation and sustainability (Youssef and Zeqiri, 2022). In general, virtualization is seen as one of the strategies for implementing CE practices, which reduces the consumption of natural resources. However, the environmental impact of digital infrastructures, as well as the investment required to support virtualization, should be taken into consideration. Fuldauer *et al.* (2019) show that technology-led strategies for sustainable waste management in small islands require a participatory planning methodology involving local communities. CE models, based on participatory processes, can ensure that investments and technological advances are iterative and adaptive to cultural and behavioural acceptance from local populations. This provides a substantive step towards achieving sustainable development goals.

The impact of digital technology has been examined in various areas, including hotels (Saura *et al.*, 2022), smart destinations (Del Vecchio *et al.*, 2022) and restaurants (Vo-Thanh *et al.*, 2021). Typically, digitalisation refers to the use of digital services for planning travel and managing the environmental impact of tourism through smart data management tools.

Saura *et al.* (2022) found that digital reservation systems can improve sustainable practices in the hotel industry and drive entrepreneurs toward CE models. Digital reservation systems allow data-centric decision-making processes, improve internal organization and management capacity and can reduce waste and operating costs. However, the lack of confidence and resistance to adopting new technologies, especially when it comes to micro, small and medium-sized companies, can hamper the transformative potentials of CE.

Concerning smart tourism and destination, Del Vecchio *et al.* (2022) analyse the case of Ecobnb. This Italian start-up promotes sustainable and responsible tourism, involving a community of more than 3,000 accommodations and tourism destinations in Europe. The start-up provides support services to hotel managers in green certification and environmental sustainability. It also proposes the most eco-friendly accommodations and eco-tourism itineraries to its users, thus promoting responsible travellers.

In response to the food waste in European countries, a mobile app called “Too Good To Go” was launched in France back in 2016. The app strives towards achieving “zero food waste” by connecting food producers and sellers such as restaurants, bars, coffee shops and food chains with potential customers (Vo-Thanh *et al.*, 2021). Restaurant managers can sell unsold food at a lower price through the app by preparing a basket, which the customer will pick up at specific times. Starbucks has also used this app for its products. In this case, digital technology allows the creation of a community to fight against food waste, increasing environmental and social responsibility, while generating additional revenue for food businesses.

Even though there have been technological advancements in sustainable hotels and tourism, operational, regulatory and political obstacles still hinder their widespread implementation. This issue is crucial, as only when technologies are used on a large scale can they truly reduce the environmental impacts generated by the tourism and hospitality industry. The creation of entrepreneurial and start-up ecosystems is an essential step in promoting interactions between tourism and other economic activities at regional and aggregate levels. Such ecosystems can yield tremendous benefits by providing a platform for innovative ideas, fostering collaboration and driving economic growth. This approach can provide support to tourism organizations with advanced CE solutions that align with the trend toward digitization and automation processes (Vargas-Sánchez, 2023).

Virtual reality technologies could also partially tackle the issue of over-tourism in famous destinations and reduce the degradation of fragile cultural heritage and natural sites, which are the target of many tourist visits. In this regard, the metaverse tourism is a rapidly growing market which enables visitors to personalize digital tourism experiences revolutionizing the in-person traditional models (Chen, 2024). However, while virtual tours can reduce GHG emissions, the extent to which these experiences can feel authentic and satisfy human curiosity remains an open question (Holden *et al.*, 2022). Furthermore, although a reduction in physical travel can enhance environmental sustainability, virtual reality technologies can have adverse social and economic impacts in reducing income and employment.

6.3 Cultural re-enlightening

This last archetype implies a structural change in people's values, beliefs and behaviours towards a more comprehensive understanding of the complex negative impacts of unsustainable lifestyles on nature, health, and wellbeing. The underlying concept of flourishing proposed by Ehrenfeld and Hoffman (2013) focuses on the need for a change in our consumption and a new approach to understanding and acting towards sustainability. Cultural re-enlightening archetype based on flourishing rather than growing argues for a transformative cultural shift prioritizing "being and caring" over "having and needing". In this sense, as Dessein *et al.* (2015) proposed, culture can be seen as the foundation of sustainable development since it influences behaviours and choices, embodying the three other dimensions of sustainable development: economic, environmental, and social.

In hospitality and tourism literature, tourism development models based on regenerative land practices (Ateljevic, 2020), a-growth and place-making (Tomassini and Cavagnaro, 2022), cultural led regeneration (Nocca, 2017), a more vital role of social entrepreneurs (Sheldon, 2022; Sheldon *et al.*, 2016) and local communities' cooperation and value sharing (Howard *et al.*, 2022), are currently debated. Sheldon (2022) criticized the assumptions of the neoliberal economic model in tourism by recalling the seminal work of Stiglitz *et al.* (2019) on well-being economics beyond gross domestic product, and the ecological "doughnut" economics paradigm suggested by Kate Raworth (2017), questioning tourism's future role to address societal challenges. This reflection identifies possible sustainable patterns in future tourism practices including the creative economy, the collaborative economy, the sacred economy and the regenerative economy.

In recent years, there has been an increase in the number of unique travel experiences being offered at religious heritage sites like monasteries, as well as natural and mountainous locations, seeking to explore alternative economic systems in the tourism industry. These experiences, focused on eco-retreats and digital detox, are often enriched by meditative and spiritual practices on site, as well as nutritional and cooking classes, stimulating reflections on the individual lifestyle, health and well-being state. Some examples of such experiences are the "Recharge in Nature" place-branding campaign of the Dolomites in 2020; the Lumen village, an eco-village mainly managed by communities of innovation who decide to experiment a way of living in synergy and deep connection with nature and ecosystems; or the Farm of Self-sufficiency in Italy, which proposes sustainable holidays for individuals and families with a solid educational and community-led component.

A crucial role of education, as strongly linked with culture, values and behaviour, is clearly evoked in the cultural re-enlightenment scenario and emerges as a cross-cutting topic in the circular and sustainable tourism and hospitality literature. Notably, education is linked to human capital development, both on the side of tourism providers and employees, as well as of tourists and residents. The emerging concept of transformative travel

(Pala and Cetin, 2022; Sheldon, 2020; Nandasena *et al.*, 2022; Bueddefeld and Duerden, 2022) appears of particular interest within the re-enlightenment archetype, as travel experiences with a focus on learning new ideas, habits, practices and cultures can be able to impact on tourists' attitudes, knowledge and skills, leading to a better understanding and interpretation of reality. Inversini *et al.* (2022) explored the transformative learning nature of Malaysian homestay experiences; they found that immersivity and co-creation facilitated the transformative process, which involved self-reflection, inter-cultural experience and engaging in dialogue with others to establish significant relationships. Moreover, Pala and Cetin (2022) identify three types of transformation in a sample of Turkish tourists: behavioural, attitude and personality changes, highlighting that the travel motivation (e.g. leisure, culture and business) and duration of travel can influence its transformative power. Finally, Bhagtani (2022) emphasizes the potential of the CE to improve employees' well-being through Corporate Social Responsibility (CSR) initiatives in three hotel companies.

As visiting places embodying a diverse culture and lifestyle can transform tourists' values and beliefs, we can argue that transformative tourism practices can play a crucial role in greening the tourism and hospitality industry, contributing to cultural re-enlightenment. However, hosting communities should already have embraced a sustainable lifestyle. Communities that have adopted radically sustainable and circular lifestyles can become new transformative destinations, attracting visitors seeking a unique, unforgettable and transformative travel experience. One example of a destination that offers a "learning journey" is the Sciacca 5 Senses Open Air Museum in Sicily, Italy. Here, visitors can interact with locals to explore their culture, lifestyle, craft, cooking traditions and citizens are engaged as part of a collective "community cooperative" of the whole city that focuses on beautifying and cleaning the urban space. In this regard, nurturing a committed circular society is vital (Jaeger-Erben *et al.*, 2021); this approach emphasizes the need for participatory methods and bottom-up social innovation to restructure production and consumption systems within planetary boundaries.

7. Discussion and future research agenda

The study concludes by reflecting on the actions needed to shift current CE models towards strong sustainability. A sustainability spectrum can be used to position CE models in terms of their contribution to reaching weak or strong sustainability (Landrum, 2018). Table 2 provides criteria for mapping the selected papers based on five stages of sustainability. These stages reflect the driving values of the possible archetypes/scenarios in the

Stages	Criteria
Very weak (<i>Compliance</i>)	Economic and growth-oriented, business-as-usual, resource exploitation
Weak (<i>Business-oriented</i>)	Green economy, eco-efficiency, technological progresses, eco-innovation, new business models, smart growth, customer awareness
Intermediate (<i>Systemic</i>)	Collaboration, ecosystems, transformative, sustainable enterprise, social choice and behaviour
Strong (<i>Regenerative</i>)	Restoration, limits to growth, planetary boundaries, communalism, new economy
Very strong (<i>Co-evolutionary</i>)	Mutually enhancing and beneficial relationship, deep ecology, A-growth, self-sustainable communities (society)

Source: Based on Landrum (2018)

Table 2.
Sustainability
interpretative
spectrum: stages and
criteria

Anthropocene era: very weak (compliance with the status quo), weak (business-oriented), intermediate (systemic), strong (regenerative) and very strong (co-evolutionary).

The majority of CE models and frameworks examined in this study can be associated with weak or intermediate levels of sustainability (Figure 4). Specifically, models within the market rules and technology fix archetypes are mostly focused on business-oriented solutions. These models assume that technological advancements, eco-innovations and industrial solutions can reduce the environmental and social impacts while maintaining current levels of growth in the hospitality and tourism industry. Their theoretical underpinning prioritizes economic values and the need for continuous innovation for business competitiveness and development. Eco-efficiency, circular business models, green and circular hotels, mobile apps, waste management contribute to reaching weak sustainability, as being narrowly focused on the specific business case, underestimating larger human, social and global concerns at the macro-level.

At the intermediate level, CE models that focus on responsible consumption or experience co-creation can lead to changes in business practices and value chain organization. However, performance measurement systems are still primarily geared towards growth and profit. Within the technology fix archetype, there are CE models that promote cooperative efforts towards systemic change, such as start-up ecosystems and smart tourism destinations. However, even in these cases, the primary objective is economic growth.

Hence, a more radical sustainability approach would require a complete change of mindset, behaviour and beliefs by all tourism stakeholders. Cooperating, building self-sustainable communities and participating collectively are essential in shaping a systemic transformation, which in its most radical form implies a deep cultural change, including new lifestyles and behaviours. In tourism and hospitality, this cultural shift is moderately emphasized in CE models within the cultural re-enlightenment, such as in the form of transformative travel and learning and in culture-led strategies. In this regard, we would

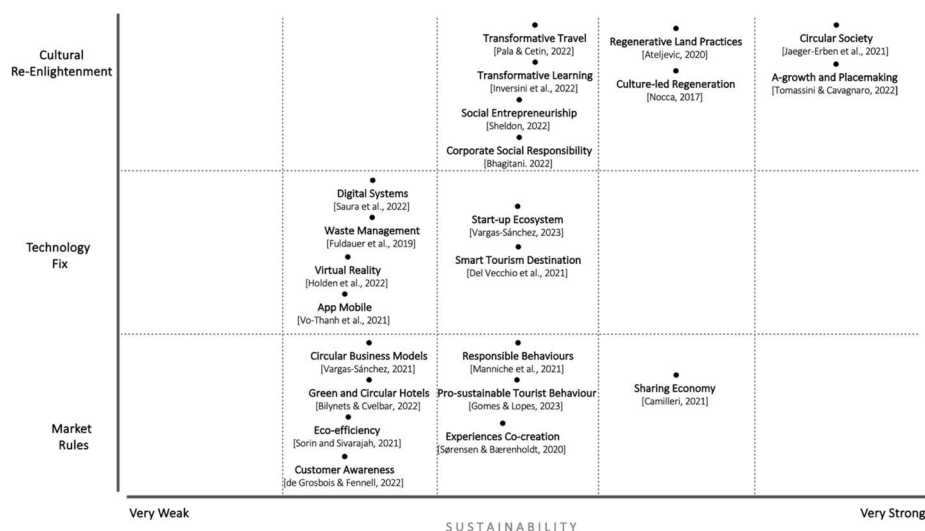


Figure 4.
H&T circular
economy models in
the Anthropocene era

Source: Authors elaboration

mention the Horizon 2020 Be.CULTOUR project, which developed six action plans for circular cultural tourism in less-known European destinations. These plans are based on innovative actions and solutions, including transformative travel experiences, which aim to offer cultural regeneration and new job opportunities while reducing over-tourism in mass tourism destinations.

In the cultural re-enlightenment archetype, a-growth and place-making promote strong sustainability approaches by proposing radical actions to reduce over-tourism and resource overconsumption. This direction has been embraced by an increasing number of destinations, such as Venice, Barcelona, and Marseille, that have tightened restrictions, imposed entry limits in historic cities and required a high tourist tax. These actions are aimed at tackling the phenomenon of over-tourism and environmental degradation (Kuper, 2023); however, entry limit restrictions can generate important ethical and social issues that deserve attention from policy makers.

Based on the results of this study, we can call for four fundamental changes that future research should address: from discipline-focused to interdisciplinary and transdisciplinary collaborations; from market and technology-oriented to eco-centric and human-centred approaches, recognizing planetary boundaries as non-negotiable thresholds but also human needs, rights, dignity and decent living conditions; from an industry to a systemic perspective, embodying the society and its “culture” (values, behaviours and beliefs); and, from CE to circular society, leading to a reconfiguration of production and consumption systems within planetary boundaries.

8. Conclusions and implications

This paper analyses the CE models currently adopted in the hospitality and tourism industry according to three possible archetypes/scenarios: market rules, technology fix and cultural re-enlightening. Each of these archetypes incorporates different approaches to tackle societal challenges in the current Anthropocene era. However, CE models in market rules and technological fix archetypes may fall short in generating a radical shift towards sustainability, given that they played a significant role in generating the Anthropocene era over the past two centuries. As highlighted in the study, we cannot solve a problem with the same tools that generated it. Instead, new culture-led approaches and behavioural changes are required to promote strong sustainability. By adopting regenerative land practices, promoting place-making and a-growth and nurturing a circular society, CE models can foster economic and social well-being, while preserving the environment. Within the cultural re-enlightenment scenario, tourism can have a potentially valuable role in fostering radical change in societal values, beliefs and behaviours, promoting a complete overturning of priorities towards re-connection of humans with nature, building collaborative communities open to tourists as “temporary residents”, ultimately leading to human flourishing and nature regeneration. The study also provides implications for managers and policymakers.

8.1 *Managerial and policy implications*

An important feature that scholars and practitioners should consider is the so-called interpretive denial in business practices, which reformulates climate change by translating it into something manageable within the current economic system (Norgaard, 2011). Last-chance tourism, which revolves around the final opportunity to visit certain places or to enjoy unique experiences such as seeing polar bears in Alaska or wild rhinoceros in Africa, is an example of denying one’s responsibility for environmental damage (Kucukergin and Gürlek, 2020). This discourse can also be extended to airlines, which currently offer offsetting projects as solutions to climate change (e.g. to pay a surcharge to plant a tree)

selling the idea of achieving carbon-free actions while continuing with business as usual. These initiatives risk not reaching “net zero carbon” emissions but just offset them. In this regard, there are different collective actions and initiatives to contrast greenwashing, ethical laundering and false sustainable solutions. The European Consumer Organization launched in 2023 an EU-wide complaint against 17 airlines for their claims to be carbon neutral airline (BEUC – The European Consumer Organization, 2023). Furthermore, diverse European projects such as TRACe (SMEs TRAnSition for a European Circular Tourism Ecosystem), CEnTOUR (Circular Economy in Tourism) and ETGG2030 (European Tourism Going Green 2030) aim to raise climate change awareness and ignite environmental certification and CE implementation in micro and small-sized enterprises in Europe.

Coordinated actions and shared measures at international and national policy levels are essential for achieving more radical approaches to sustainable tourism and hospitality in compliance with the United Nations Agenda 2030 and Carbon Neutrality by 2050. Policy actions should foster the adoption of an ecological culture centred on the acknowledgment of planetary boundaries – “thresholds below which humanity can safely operate and beyond which the stability of planetary-scale systems cannot be relied upon” (Rockström *et al.*, 2009) – as well as the rights of future generations to healthy and sustainable environment. This calls for new methodological approaches and measurement systems capable of quantifying the sustainability of tourism and hospitality at multiple levels (from the single business and destination to the global level). Transdisciplinary approaches can provide a new perspective for achieving sustainable hospitality and tourism in the Anthropocene era. By bringing together experts from various fields, local communities, policymakers and other stakeholders, this approach can help uncover complex interactions and interdependencies among sustainability’s environmental, sociocultural and economic dimensions. This understanding empowers decision-makers and stakeholders to make informed choices that prioritize long-term sustainability over short-term gains.

Finally, the transition to Industry 5.0 represents a new paradigm shift towards a more sustainable, human-centric and resilient industrial future. Unlike Industry 4.0, which emphasizes efficiency and economic gains, Industry 5.0 focuses on regenerative and restorative approaches. This shift is expected to bring a significant transformation in the service industry, especially in the hospitality and tourism (Cheng *et al.*, 2023). To keep pace with this evolving landscape, digital transformation and the well-being of workers, empowering them through skills development, training and a supportive work environment, represent the priority to enhancing the humanized creativity. This includes the exploration and the designing of artificial intelligence tools that work with human creators, rather than replacing them.

Within these paradigm shifts, we should critically address the current interests in the space tourism. In 2021, several big corporations, including SpaceX, Blue Origin and Virgin Galactic, have transformed space tourism from a futuristic concept into a present-day investment opportunity. Meanwhile, the European Space Agency has launched a call for “Space for Tourism” to encourage the development of sustainable tourism services based on innovative digital solutions. Paradoxically, the debate on sustainable tourism and hospitality in the Anthropocene seems to be seeking a Planet B with the development of space tourism.

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