

Circular Economy in Tourism: A System-Level Approach

Sanna-Mari Renfors

Satakunta University of Applied Sciences, Pori, Finland

sanna-mari.renfors@samk.fi

Abstract: Tourism is a sector where circular economy unfolds extensive opportunities. Despite being classified as a service sector, tourism depends on significant quantities and flows of exhaustible natural resources. As a result, circular economy in tourism has become an emerging field of study. This can also be ascribed to the fact that the topic of circular economy is currently high on the political agenda, especially in Europe. Because circular economy is receiving exponential attention from policy makers, it has also received more interest among tourism scholars. The aim of this paper is to increase understanding of circular economy in tourism research considering its systemic nature. The paper is based on a review of the scientific articles published in the years 2015-2022. The research question is: What are the recent developments and trends in the research on CE in tourism from a system-level approach? The findings indicate that the previous studies have mainly focused on the micro level from the environmental and business management perspectives in the hospitality sector. However, there are many emerging research themes, for example circular consumption behaviour, circular economy and smart tourism. In addition, other types of tourism companies should be considered, e.g., spas, events, and programme service providers. It is evident that more research is required on the meso and macro levels. In all levels, more attention should be paid on the social and cultural aspects of circular economy in tourism.

Keywords: Circular tourism, Circular economy, Sustainable tourism, Circular practices

1. Introduction

Tourism is a sector where circular economy unfolds extensive opportunities. The sector has a significant role in the ongoing economic transformation because it has a multiplier effect on the whole economy and can encourage circular flows among its suppliers and customers (Vargas-Sanchez 2021). The sector is strongly interlinked with other key industries, especially agriculture, construction, water supply, waste management, electricity, sewage, transport and logistics as well as food, drink and textile manufacture industries. Thus, tourism actors have an important role as enablers within circular transition (Einarsson & Sorin 2020).

Despite being classified as a service sector, tourism depends on significant quantities and flows of exhaustible natural resources. Therefore, circular economy provides essential tools for solving environmental problems caused by tourism, and it contributes to the well-being of individuals and communities. Circular business models in the tourism industry improve environmental performance in tourism, and simultaneously they generate cost savings and the growth of revenue as well as help create local jobs (Zorpas et al. 2021). Circular economy is also connected to the long-term post-COVID-19 recovery of the tourism industry, which will be influenced by the speed of the transformation of the current linear production system to a circular one (Prideaux, Thompson & Pabel 2020).

The concept of circular economy has become very popular since it was introduced by policy makers as a solution to reduce harm to the environment by countries, companies and consumers (Prieto-Sandoval, Jaca & Ormazabal 2018). Due to its potential to transform the use of resources in the economy, it is currently high on the political agenda. Because it is receiving exponential attention from policy makers, it has also started to gain more interest in tourism research. As a result, circular economy in tourism can be considered an emerging field of study and it has recently been advanced increasingly by tourism scholars.

The aim of this paper is to increase understanding of circular economy in tourism considering its systemic nature by performing a literature analysis. The paper is based on a review of the scientific articles published in the years 2015–2022. The research question is: What are the recent developments and trends in the research on CE in tourism from a system-level approach?

2. Circular Economy in Tourism

Circular economy is an economic system that represents a change of paradigm in how human society is interrelated with nature (Prieto-Sandoval et al. 2018). It is a system-level production and consumption model of economy operating within the planetary boundaries and aiming at regenerating natural and social capital (Sorin & Sirajavah 2021). It is an economy based on resource-efficiency with a mission to save resources by maximising efficiency and minimising their wastage (Sheldon 2022). In other words, circular economy aims at an in-depth transformation of the way resources are used; resources are reused and kept in a loop of production and usage

(Preston 2012; Urbinati, Chiaroni & Chiesa 2017). Thus, it is a systemic transformation which involves transforming production, services, and consumption.

Because transition towards circular economy involves all actors in society, it requires fundamental changes simultaneously at the micro, meso and macro system. As Manniche, Larsen and Broegaard (2021) state, individual companies are limited by the societal systems within which they operate, whereas actions are required at multiple levels. In addition, consumption patterns should be changed. Therefore, the implementations of circular economy are often categorised into these three systemic levels: micro (products, single company activities, consumers), meso (industrial symbiosis, supply chains, company networks and clusters) and macro level (city, region, nation, government, society) (Ghisellini, Cialani & Ulgiati 2016; Kirchherr, Reike & Hekkert 2017; Merli, Preziosi & Acampora 2018). The macro level relates to the need of the public decision-makers to address circularity at territorial level, and it highlights the necessity of adjusting the composition and structure of the entire economy (Kirchherr et al. 2017; Merli et al. 2018). The micro and meso levels respond to the specific needs of single or clustered companies to apply the principles of circular economy and to increase circularity (Merli et al. 2018).

Girard and Nocca (2017, p. 68) define circular tourism as a model which can create a virtuous circle by producing goods and services without wasting the limited resources of the raw materials, water, and energy of the planet. They emphasise that circular tourism is not solely connected to limiting the consumption and waste of non-renewable energy sources, but it also implies recovery, reuse, redevelopment, valorisation and regeneration. As Manniche et al. (2017) argue, it is necessary to understand that circular economy is about holistic rethinking of the tourism company as a producer of a multitude of (by-) products which can be valued instead of wasted.

Circular economy supports the tourism sector in achieving sustainable development and more efficient use of resources (Davies & Egas 2022). It has a significant potential as an integrative framework for encouraging tourism stakeholders towards more sustainable practices (Manniche et al. 2021). As Manniche et al. (2021) emphasise, sustainability is the goal and circularity the way. Therefore, there is growing recognition of the fact that circular economy is a toolbox for the tourism sector to achieve the Sustainable Development Goals (SDGs) (Einarsson & Sorin 2020; Padilla-Rivera, Russo-Garrido & Merveille 2020). However, it has also been pointed out that the link between circular economy and sustainable development is weak, when economic prosperity and environmental quality are considered. In addition, the social dimension of circular economy has not yet been fully recognised. (D'Adamo 2019; Padilla-Rivera et al. 2020)

3. Methods

This paper is based on the framework of Ghisellini et al. (2016), Kirchherr et al. (2017), and Merli et al. (2018) and reviews circular economy in tourism by using the systemic levels of its implementation as the scale of analysis. In this paper, the micro level is the so-called grassroots level focusing on single companies and tourists' activities. The meso level is the intermediate level concentrating on industrial symbiosis, supply chains, company networks and clusters. The macro level has a larger scope with the focus on tourism destinations as geographical areas, for example cities, regions, and nations as well as governments and societies. By utilising these levels, the aim was to capture the different ways in which circular economy in tourism has been approached and framed in research. As a result, this paper also considers the systemic nature of circular economy, which has been neglected in tourism studies.

To identify potentially relevant full-length articles, 'Circular Economy' AND 'Tourism' and 'Circular Tourism' in the fields 'abstract', 'keywords' and 'title' were used to collect the data. The results were filtered by using the timeline option of 'since 2015' because the focus of this article is on the very recent developments of research. The search was also limited to journals published in English. Literature reviews and editorials as well as conference papers and book chapters were excluded. The articles had to be directly linked to tourism as the main context of the study.

First, Scopus and Web of Science databases were selected as the sources to trace the articles for analysis. A total of 183 scientific articles published since 2015 in journals were identified by Scopus and 223 by Web of Science database for the present analysis. Duplicate articles were removed, and eligibility of the articles was assessed by reading the abstracts individually to see whether they were related to the research objective. This narrowed down the results to a total of 28 articles, which met the established criteria for inclusion and were considered relevant to the objective of the study. Once the sample was settled, the full content of these articles was read and qualitative content analysis performed. The articles were first classified according to their systemic level. Then, the specific research themes related to each level were explored.

4. Results

4.1 Company Level

Hospitality industry, i.e., large hotel chains have usually been the context of the studies in circular economy. For example, Khodajji and Christopoulou (2020) examined circular economy in two leading hotel groups in Greece, and they also suggested practical approaches to achieve sustainability. Rodriguez-Anton and Alonso-Almeida (2019) investigated circular economy practices deployed by large British, French and Spanish hotel chains to shed light on their circular economy strategies. Sorin and Sivarajah (2021) proposed a circular economy applicability framework by interviewing Scandinavian hotel chain managers. Furthermore, Davies and Egas (2022) investigated whether luxury brand hotel chain leaders feel there is a circular economy created through corporate social responsibility (CSR) initiatives and whether these initiatives improve the quality of work life for the employees.

Circular economy at tourism company level is also framed into environmental sustainability studies exploring the practices related to cleaner production. In particular, environmental practices in the areas of energy, water and waste are a widely discussed topic (e.g., Camilleri 2021; Ionnadis et al. 2021; Jaroszewska, Chaja & Dziadkiewicz 2019; Pamfilie et al. 2018). This is because the tourism sector is perceived to cause risks to environmental sustainability due to the significant amount of energy consumed and the waste generated (Rodriguez-Anton & Alonso-Almeida 2019). In addition, companies interpret circular economy as a resource and a toolbox to prevent these risks (Sorin & Sivarajah 2021). At the company level, studies (e.g., Khan et al. 2021) have also paid attention to the demand for environmental certifications and the intentions of the tourism SMEs to adopt them.

Cornejo-Ortega and Chavez Dagostino (2020) report that the tourism companies are only starting to recognise the term circular economy. It is not yet fully integrated to the strategies and activities in the companies. Therefore, many studies have concentrated on the knowledge and understanding of circular economy in the companies (Cornejo-Ortega & Chavez Dagostino 2020; Sorin & Sivarajah 2021). Other relevant topics include studies on the willingness and intention to design a transition and implement circular economy (Cornejo-Ortega & Chavez Dagostino 2020; Khan et al. 2022) as well as its barriers in tourism companies (Sorin & Sivarajah 2021; Vatanserver, Akarsu & Kazançoğlu 2021).

In addition, circular economy and smart tourism have attracted increasing attention (e.g., del Vecchio et al. 2021; Saura, Ribeiro-Soriano & Palacios-Marqués 2022), because circular economy in tourism requires innovation of novel technologies. del Vecchio et al. (2021) present how digital technologies and big data can be targeted at a sustainable value creation process consistent with the perspectives of smart tourism and circular economy. Furthermore, Saura et al. (2022) state that adopting a digital reservation system can increase the efficiency of companies' resources, as well as lead to creation of sustainable knowledge, augment the use of new sources of user information, improve prediction of services and demand and, consequently, boost circular economy. As Jones and Wynn (2019) conclude, the growing needs of tourism companies to address circular economy is driving major changes in software functionality and design.

4.2 Tourist Level

Some authors (e.g., Pattanaro & Gente 2017; Sørensen & Bærenholdt 2020) state that the tourists have a significant role, and they are a strength in the transition towards circular economy, since production and consumption are inseparable in tourism. Indeed, the success of the transition towards circular economy depends to a large extent on the mindset of the tourists (Bosone & Nocca 2022). As a result, it is essential to understand the tourists' practices regarding their ways of travelling and being a tourist as well as encouraging their circular engagement.

The tourist level research is mainly concerned with questions of promoting circular consumption behaviour and exploring the tourists' awareness and attitudes (Bosone & Nocca 2022; Julião, Gaspar & Alemão 2020; Patti 2017; Rodríguez, Jacob & Florido 2020; Sørensen & Bærenholdt 2020). According to Patti (2017), different motivational factors affect the tourists' behaviour such as environmental protection. Furthermore, Rodríguez et al. (2020) point out that the tourists' attitude towards circular practices varies according to their socio-economic profile: nationality, educational and income level. Julião et al. (2020) conclude that environmental sustainability aspects do have a positive influence on the customers' hotel selection, but only half of them are willing to pay extra costs if sustainability solutions were offered in the hotels of their choice. In conclusion, a lot still needs to be done in increasing the tourists' awareness of the complexity of the factors involved in circular tourism (Bosone & Nocca 2022).

4.3 Destination Level

The review shows that so far limited interest has been paid in the circularity of tourist destinations with attention to multiple stakeholders and levels of implementation. There are a few practical examples of tourism destinations which are transitioning towards circularity. These include mainly coastal and island destinations such as Krabi (Pongsakornrungsilp & Pongsakornrungsilp 2021), Guam (Schumann 2020) and the Vietnam Mekong Delta (He & Mai 2021). In addition, transition towards circular economy in cultural heritage sites has received growing attention (Rudan, Nižić & Grdić 2021).

The previous destination level research on circular economy agrees on two issues. First, it is deemed of utmost importance to involve all destination stakeholders and to form local partnerships and networks to implement circular economy (Pongsakornrungsilp & Pongsakornrungsilp 2021; Rudan et al. 2021). The tourism sector, the public administration and destination management organisations (DMOs), the resident population and tourists should all act in synergy. It is a collective commitment and requires co-creation of a strong culture at the destination level (Kiradjieva, Alvarez & Montoyam 2020; Pongsakornrungsilp & Pongsakornrungsilp 2021). Second, the local government has an essential role in supporting the circular transformation. Destinations should adjust the administrative and regulatory frameworks faster (Rudan et al. 2021), and policy strategies should aim at reducing the administrative burdens of bureaucracy (Falcone 2019). Furthermore, the implementation of the circular economy approach and new models of governance are a necessity when reframing the tourism model of the municipality (Kiradjieva et al. 2020).

5. Discussion and Conclusions

The keywords emerging from the literature review are presented in Figure 1. In conclusion, circular economy in tourism is mainly defined as a micro level activity focusing on environmental and business management perspectives in the hospitality industry. It is often associated with practices related to recycling, reducing and reusing resources efficiently in companies. The following topics are discussed widely: understanding, knowledge, intention, willingness, and barriers of implementing circular economy in tourism companies. There are also many emerging research themes, for example connecting circular economy with digital technologies. In addition, it has been acknowledged that the transition to circular economy requires changes in consumption behaviour, and it has received attention from tourism scholars. There are also signs that the cultural and social aspects of circular economy are slowly gaining growing attention.



Figure 1: The Keywords Describing Circular Economy in Tourism

What comes to future research at the company level, Sorin and Einarsson (2020) point out that different sectors and market contexts in tourism will generate different circular transformations. They divided the industry actors as asset heavy actors (e.g., accommodation operators) and asset light actors (e.g., travel agencies and distributors). The existing studies focus on these so-called heavy actors, but the light actors and their circular transformation should also be examined. In addition, circular economy could be explored in the events sector related to the production and delivery of events as well as in spas and among tourism programme service providers.

Interestingly, there are also some studies which focus on the macro level. There seems to be a growing understanding that it is necessary to include various groups of stakeholders and commit them collectively to circular economy. Residents should be considered in its implementation and public decision-makers involved in addressing circularity. Indeed, calls have been made (Martinez-Cabrera & Lopez-del-Pino 2021; Rudan et al. 2021) for further research on the destination level which would include the perspectives of various stakeholders, e.g., destination managers, local governments, and residents.

There is hardly any research on circular economy in tourism at the meso level. Studies, which focus on the supply chain perspective are desperately needed as tourism is strongly interlinked with other key industries. There have been some attempts related to agriculture and rural tourism (e.g., Joshi, Sharma & Kler 2020; Immacolata 2018). However, it would be highly relevant to involve also other actors of the supply chain to promote circular economy, for example textile or furniture sectors.

It is obvious that there are some limitations. As circular economy in tourism is in its infancy, the terminology is not yet very well known. In addition, circular economy includes different meanings, and there are many synonyms, complementary and integrated terms (e.g., sharing economy, collaborative consumption, carbon-neutral tourism, low-carbon tourism, zero waste concept). Therefore, this article did not intend to provide an exhaustive review but focus on those issues which have been most topical in the recent years.

References

- Bosone, M. and Nocca, F. (2022) "Human Circular Tourism as the Tourism of Tomorrow: The Role of Travellers in Achieving a More Sustainable and Circular Tourism", *Sustainability*, Vol. 14, No. 19, p. 12218.
- Camilleri, M. A. (2021) "Sustainable Production and Consumption of Food. Mise-en-Place Circular Economy Policies and Waste Management Practices in Tourism Cities", *Sustainability*, Vol. 13, No. 17, p. 9986.
- Cornejo-Ortega, J. L. and Chavez Dagostino, R. M. (2020) "The tourism sector in Puerto Vallarta: An approximation from the circular economy", *Sustainability*, Vol. 12, No. 11, p. 4442.
- D'Adamo, I. (2019) "Adopting a circular economy: Current practices and future perspectives", *Social Sciences*, Vol 8, No. 12, p. 328.
- Davies, S. J. and Egas, J. L. (2022) "Do social corporate responsibility initiatives help to promote circular economic activity and quality of work life for employees?", *Worldwide Hospitality and Tourism Themes*, ahead-of-print.
- del Vecchio, P., Malandugno, C., Passiante, G. and Sakka, G. (2021) "Circular economy business model for smart tourism: the case of Ecobnb", *EuroMed Journal of Business*, Published ahead-of-print
- Einarsson S. and Sorin, F. (2020) *Circular Economy in travel and tourism: A conceptual framework for a sustainable, resilient and future proof industry transition*, CE360 Alliance.
- Falcone, P. M. (2019) "Tourism-based circular economy in Salento (South Italy): A SWOT-ANP analysis.", *Social Sciences*, Vol. 8, No. 7, p. 216.
- Ghisellini, P., Cialani, C. and Ulgiati, S. (2016) "A review on circular economy: the expected transition to a balanced interplay of environmental and economic systems", *Journal of Cleaner Production*, Vol. 114, pp. 11–32.
- Girard, L. F. and Nocca, F. (2017) "From linear to circular tourism", *Aestimum*, Vol. 70, pp. 51–74.
- He, J. and Mai, T. H. T. (2021) "The Circular Economy: A Study on the Use of Airbnb for Sustainable Coastal Development in the Vietnam Mekong Delta", *Sustainability*, Vol. 13, No. 13, p. 7493.
- Immacolata, V. (2018) "Agriculture, rural tourism and circular paradigm", *Calitatea*, Vol. 19, No. S1, pp. 556–562.
- Ioannidis, A., Chalvatzis, K. J., Leonidou, L. C. and Feng, Z. (2021) "Applying the reduce, reuse, and recycle principle in the hospitality sector: Its antecedents and performance implications", *Business Strategy and the Environment*, published ahead-of-print.
- Jaroszewska, M., Chaja, P. and Dziadkiewicz, A. (2019) "Sustainable energy management: are tourism SMEs in Poland ready for circular economy solutions?", *International Journal of Sustainable Energy Planning and Management*, Vol. 24, pp. 75–84.
- Jones, P. and Wynn, M. G. (2019) "The circular economy, natural capital and resilience in tourism and hospitality", *International Journal of Contemporary Hospitality Management*, Vol. 31, No. 6, pp. 2544–2563.
- Joshi, S., Sharma, M. and Singh, R. K. (2020) "Performance evaluation of agro-tourism clusters using AHP–TOPSIS", *Journal of Operations and Strategic Planning*, Vol. 3, No. 1, pp. 7–30.

- Julião, J., Gaspar, M. and Alemão, C. (2020) "Consumers' perceptions of circular economy in the hotel industry: evidence from Portugal", *International Journal of Integrated Supply Management*, Vol. 13, No. 2–3, pp. 192–209.
- Khan, O., Marrucci, L., Daddi, T. and Bellini, N. (2021) "Adoption of Circular Economy and Environmental Certifications: Perceptions of Tourism SMEs", *Journal of Management and Sustainability*, Vol. 11, No. 1, pp. 218–218.
- Khan, O., Bellini, N., Daddi, T. and Iraldo, F. (2022) "Effects of behavioral intention and dynamic capabilities on circular economy adoption and performance of tourism SMEs", *Journal of Sustainable Tourism*, 1–20.
- Khodajji, J. D. and Christopoulou, D. (2020) "Sustainable development and the circular economy in Greece: case examples from Costa Navarino and Grecotel", *Worldwide Hospitality and Tourism Themes*, Vol. 12, No. 5, pp. 609–621.
- Kiradjieva, J., Álvarez, L. L. and Montoya, L. H. B. (2020) "Tourism Economy and Governance. The Case of the Municipality of San Rafael in Colombia", *Journal of Environmental Management & Tourism*, Vol. 11, No. 8, pp. 1994–2005.
- Kirchherr, J., Reike, D. and Hekkert, M. (2017) "Conceptualizing the circular economy: An analysis of 114 definitions", *Resources, Conservation and Recycling*, Vol. 127, pp. 221–232.
- Manniche, J., Larsen, K., Broegaard, R. and Holland, E. (2017) *Destination: A circular tourism economy. A handbook for transitioning toward a circular economy within the tourism and hospitality sectors in the South Baltic Region*, Centre for Regional & Tourism Research (CRT), Denmark.
- Manniche, J., Larsen, K. T. and Broegaard, R. B. (2021) "The circular economy in tourism: transition perspectives for business and research", *Scandinavian Journal of Hospitality and Tourism*, Vol. 21, No. 3, pp. 247–264.
- Martínez-Cabrera, J. and López-del-Pino, F. (2021) "The 10 Most Crucial Circular Economy Challenge Patterns in Tourism and the Effects of COVID-19", *Sustainability*, Vol. 13, No. 9, p. 4940.
- Merli, R., Preziosi, M. and Acampora, A. (2018) "How do scholars approach the circular economy? A systematic literature review" *Journal of Cleaner Production*, Vol. 178, pp. 703–722.
- Padilla-Rivera, A., Russo-Garrido, S. and Merveille, N. (2020) "Addressing the social aspects of a circular economy: A systematic literature review", *Sustainability*, Vol. 12, No. 19, p. 7912.
- Pamfilie, R., Firoiu, D., Croitoru, A.G. and Ionescu, G.H.I. (2018) "Circular Economy – A New Direction for the Sustainability of the Hotel Industry in Romania?" *Amfiteatru Economic*, Vol. 20, No. 48, pp. 388–404.
- Pattanaro, G. and Gente, V. (2017) "Circular economy and new ways of doing business in the tourism sector", *European Journal of Service Management*, Vol. 21, pp. 45–50.
- Patti, S. (2017). "Circular economy and sharing consumption: Attitudes towards low-carbon tourism", *Economics and Policy of Energy and the Environment*, Vol. 1–2, No. 1–2, pp. 219–234
- Pongsakornrungrungsilp, P. and Pongsakornrungrungsilp, S. (2021) "Mindful tourism: nothing left behind—creating a circular economy society for the tourism industry of Krabi, Thailand", *Journal of Tourism Futures*, published ahead-of-print.
- Preston, F. (2012) "A global redesign? Shaping the circular economy", *Energy, Environment and Resource Governance*, Briefing Paper, Chatham House, London.
- Prideaux, B., Thompson, M. and Pabel, A. (2020) "Lessons from COVID-19 can prepare global tourism for the economic transformation needed to combat climate change", *Tourism Geographies*, Vol. 22, No. 3, pp. 667–678.
- Prieto-Sandoval, V., Jaca, C. and Ormazabal, M. (2018) "Towards a consensus on the circular economy", *Journal of Cleaner Production*, Vol. 179, pp. 605–615.
- Rodríguez, C., Jacob, M. and Florido, C. (2020) "Socioeconomic Profile of Tourists with a Greater Circular Attitude and Behaviour in Hotels of a Sun and Beach Destination", *International Journal of Environmental Research and Public Health*, Vol. 17, No. 24, p. 9392.
- Rodríguez-Antón, J. M. and Alonso-Almeida, M. D. M. (2019) "The circular economy strategy in hospitality: A multicase approach", *Sustainability*, Vol. 11, No. 20, p. 5665.
- Rudan, E., Nižić, M. K., & Grdić, Z. Š. (2021) "Effect of circular economy on the sustainability of cultural tourism (Croatia)", *Ekonomia i Środowisko-Economics and Environment*, Vol. 76, No. 1, pp. 120–138.
- Saura, J. R., Ribeiro-Soriano, D. and Palacios-Marqués, D. (2022) "Adopting digital reservation systems to enable circular economy in entrepreneurship", *Management Decision*, (ahead-of-print).
- Schumann, F. R. (2020) "Circular economy principles and small island tourism Guam's initiatives to transform from linear tourism to circular tourism", *Journal of Global Tourism Research*, Vol. 5, No. 1, pp. 13–20.
- Sheldon, P. J. (2022) "The coming-of-age of tourism: embracing new economic models", *Journal of Tourism Futures*, Vol. 8, No. 2, pp. 200–207.
- Sørensen, F. and Bærenholdt, J. O. (2020) "Tourist practices in the circular economy", *Annals of Tourism Research*, Vol. 85, 103027.
- Sorin, F. and Sivarajah, U. (2021) "Exploring Circular economy in the hospitality industry: empirical evidence from Scandinavian hotel operators", *Scandinavian Journal of Hospitality and Tourism*, Vol. 21, No. 3, pp. 265–285.
- Urbinati, A., Chiaroni, D. and Chiesa, V. (2017) "Towards a new taxonomy of circular economy business models", *Journal of Cleaner Production*, Vol. 168, pp. 487–498.
- Vargas-Sánchez, A. (2021) "The new face of the tourism industry under a circular economy", *Journal of Tourism Futures*, Vol. 7, No. 2, pp. 203–208.
- Vatansever, K., Akarsu, H. and Kazancoglu, Y. (2021) "Evaluation of Transition Barriers to Circular Economy: A Case from the Tourism Industry", *International Journal of Mathematical, Engineering and Management Science*, Vol. 6, No. 3, pp. 824–846.
- Zorpas, A. A., Navarro-Pedreño, J., Panagiotakis, I. and Dermatas, D. (2021) "Steps forward to adopt a circular economy strategy by the tourism industry", *Waste Management & Research*, Vol. 39, No. 7, pp. 889–891.