



Csapó, János¹ – Végi, Szabina²

Seasonality Research in the Context of Smart Tourism – Evidence for an Empirical Research Gap³

ABSTRACT

According to the definition of the UNWTO, one of the pillars of smart tourism research is the context of seasonality. Based on this approach, the authors aimed to reveal the results of the extent to which field-specific literature addresses this issue. However, regarding the concept of smart tourism, the authors of this study have shown a lack of attention to the relationship between these two logically related areas of tourism research: seasonality and smart tourism. Thus, the study proposed a new approach and possible research directions in connection with seasonality research in the context of smart tourism.

Keywords: smart tourism, smart destination, seasonality, review of reviews

¹ Full Professor, Faculty of Business and Economics, Department of Marketing and Tourism, University of Pécs, Hungary, e-mail: csapo.janos@tkk.pte.hu ORCID: <https://orcid.org/0000-0001-6645-8629>

² PhD candidate, Doctoral School of Regional Policy and Economics, University of Pécs, Hungary, e-mail: mikeine.vegi.szabina@tkk.pte.hu ORCID: <https://orcid.org/0000-0002-1680-9555>

³ “The No. 142571 project was funded by the Ministry of Innovation and Technology with support from the National Research Development and Innovation Fund under the ‘OTKA’ K_22 call programme.”

INTRODUCTION

Smart tourism is a relatively new but more researched and studied area of modern tourism research and literature (Villacé-Molinero et al., 2022). For the search term “smart tourism”, ScienceDirect returns 474 hits, WoS 715, and GoogleScholar 17 500, while for “smart destination” the numbers of search terms are 107 (ScienceDirect), 84 (WoS), and 2230 (GoogleScholar). It also proves the importance of the topic that the number of papers on smart tourism literature review and SLR research published in highly indexed journals (*Web of Science, Scopus, EconLit with Full Text, Academic Search Complete*) has increased steadily since 2010.

We can also state that nowadays the word ‘smart’ is a kind of buzzword in both our academic and everyday life, covering a wide range of topics from smart devices (Ghafurian et al., 2023) to smart cities (Fekete, 2023), smart rural development (Szalai & Fabula, 2021), accessibility (Raffay & Gonda, 2020), smart governing (Zsilincsar, 2008), etc. In our opinion, as the ultimate goal of smart tourism is to improve the efficiency of resource management, increase digitalisation, maximise competitiveness and enhance sustainability through the application of technological innovations and practices, the importance and value of research in this area concerning the innovative development of tourism is unquestionable and fully in line with EU tourism policy as well (Csapó et al., 2023; Gretzel et al., 2015).

Hence, the starting point for the research question is derived from the concept of the UNWTO about smart destination: “*A smart destination is one with a strategy for technology, innovation, sustainability, accessibility and inclusivity along the entire tourism cycle: before, during and after the trip. A smart destination is also one with residents as well as tourists in mind, factoring multilingualism, cultural idiosyncrasies, and seasonality into tourism planning*” (UNWTO). Thus, smart tourism and smart destinations play an important role in tourism planning, including addressing seasonality issues; hence, according to UNWTO, one of the pillars of smart tourism research is the study of seasonality. Based on this approach, the authors aimed to reveal the results of the extent to which literature concerned with the above-mentioned fields addresses this issue.

METHODS

This study uses review of reviews and content analysis as its research methodology. Therefore, the approach was to systematically review the literature review and SLR-based literature (review of reviews) aiming to reveal the research results of the relationship between smart tourism research and seasonality in papers published between 2008 and 2022. This approach (or overviews of reviews), which is traditionally used in medical sciences, allows the results of various reviews to be compared and contrasted (Smith et al., 2011) and it can also help direct the reader to evidence, summarize prior studies or draw attention to the lack of proof (Hasanpoor et al., 2019). Given the huge amount of varied literature, it was determined to be the most appropriate approach to examine this complex issue.

In total, 30 articles were identified (Appendix 1) and then analysed through content analysis. The study used *Web of Science*, *Scopus*, *EconLit with Full Text*, and *Academic Search Complete* databases as bibliometric data sources.

RESULTS

Proving the logical and scientific link between seasonality and smart tourism

To prove the logical and scientific link between seasonality and smart tourism, the authors would like to draw on the findings of one of the first and most cited works on smart tourism. Starting briefly from the theoretical background of smart tourism, Gretzel et al. (2015) stated that there is a lack of definitional clarity for this topic, since from the 2010s on – due to the spectacular development of digitalisation in tourism as well – suddenly everything became smart. They argue that the technologies and new approaches to data collection, management, and sharing are not fully covering the concept, so, according to their perspective, smart tourism can be defined with the help of three important components and layers that are based on information and communication technologies (ICT), namely smart experience, smart business ecosystem, and smart destinations. According to its definition, “*smart tourism is defined as tourism supported by integrated efforts at a destination to collect and aggregate/harness data derived from physical infrastructure, social connections, government/organizational sources and human bodies/minds in combination with the use of advanced technologies to transform that data into on-site experiences and business value-propositions with a clear focus on efficiency, sustainability and experience enrichment*” (Gretzel et al., 2015, p. 181).

The clear focus on efficiency and sustainability is by no means through the factors that play an important role in terms of seasonality issues and research as well; however, at this stage, this approach is rather general. To receive a more accurate connection, we need to explore the smart tourism research agenda determined by Gretzel et al. (2015) (Table 1). According to this compilation, one could detect research areas connected to seasonality and establish connection hierarchy by defining primary and secondary links based on the content (Table 1).

Evidence from review and SLR-based literature

In the next step, the authors reviewed the 30 identified publications related to smart tourism based on literature review and SLR methodology (Appendix 1). Based on content analysis, it can be concluded that of the 30 studies, in 26 cases the text did not contain any reference to the keyword “seasonality” and in only 4 cases was there any mention of the concept (1 in the bibliography, 1 among the keywords, 1 mention in the introduction only connected to tourism in general, and 1 as a detected empirical observation). On this basis, the authors demonstrated that review literature (and so, since the reviews covered an extended range of research scopes related to smart tourism, literature about

the topic in general) has so far not dealt with the relationship between seasonality and smart tourism in any possible aspects, and practically not even tangentially.

Table 1. The main identified research agenda for smart tourism

Smart Tourism Aspect	Research topics	Primary/secondary content/ linkage to seasonality (determined by the authors)
<i>Consumption</i>	Privacy concerns Attitudes towards co-creation Value derived Physiological consequences of ubiquitous connectivity Need/desire for escape from technology Technology access	– Secondary Secondary – Secondary –
<i>Service provision</i>	Value of data/information Exploitable technology-market combinations Suitable business models Innovation capacity Human resources implications Collaboration/coordination mechanisms Market dynamics	Secondary Primary Secondary Secondary Primary Secondary Secondary Primary
<i>Facilitation</i>	Information governance Infrastructure requirements Social and environmental cost Artificial intelligence	Primary Primary Primary –

Source: Based on Gretzel et al. (2015), own editing

CONCLUSIONS

This short paper attempted to reveal the existing results of the extent to which field-specific literature addresses the connection between smart tourism and seasonality, but instead demonstrated those of research. With the identification of the relevant theoretical background, the authors first identified the main research fields proving the logical research connection and overlap between the two study areas.

Based on the review of review literature, it has been proven that the works exploring the relationship between smart tourism and seasonality are practically missing. Therefore, the present literature survey proved that this area is not yet revealed and covered sufficiently; however, the direct and indirect overlaps and points of connection have been thoroughly dealt with for years but without connecting the elements of both smart tourism and seasonality research. The suggested research directions and examples of these points are: smart tourism can help us understand and predict patterns of tourism demand or facilitate the development of targeted and personalized marketing campaigns. The authors also believe that the use of smart tourism in seasonality research can help us improve the efficiency and effectiveness of tourism marketing and planning, ultimately contributing to the long-term sustainability of the industry.

The paper highlighted the practical and theoretical basis of the topic and thus proposed a new research direction and agenda, which is far from being comprehensive; rather, it sought to emphasize a current gap in understanding the potential relationship between smart tourism and seasonality studies.

The study's potential limitation is that it did not review all the related literature; however, the review of reviews method provided a reasonable and representative sample of sources. Therefore, future directions of the research will focus on reviewing all the related literature.

REFERENCES

- Csapó, J., Csóka, L., Gonda, T., & Végi, Sz. (2023). Tourists' Attitudes towards Digitalisation before and after Covid-19 Pandemic – A Hungarian Perspective. In S. Sever Mališ; I. Načinović Braje; F. Galetić (Eds.), *Proceedings of FEB Zagreb 14th International Odyssey Conference on Economics and Business* (pp. 134–146). Faculty of Economics & Business University of Zagreb.
- Fekete, K. A. (2023). Budapest Residents' Views on Smart City Developments as Revealed by a Questionnaire Survey. *Modern Geográfia*, 18(2), 17–33. <https://doi.org/10.15170/MG.2023.18.02.02>
- Ghafurian, M., Ellard, C., & Dautenhahn, K. (2023). An investigation into the use of smart home devices, user preferences, and impact during COVID-19. *Computers in Human Behavior Reports*, 11, 100300, <https://doi.org/10.1016/j.chbr.2023.100300>
- Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015). Smart tourism: foundations and developments. *Electron Markets*, 25, 179–188. <https://doi.org/10.1007/s12525-015-0196-8>
- Hasanpoor, E., Hallajzadeh, J., Siraneh, Y., Hasanzadeh, E., & Haghgoshayie, E. (2019). Using the Methodology of Systematic Review of Reviews for Evidence-Based Medicine. *Ethiopian Journal of Health Sciences*, 29(6), 775–778. <https://doi.org/10.4314/ejhs.v29i6.15>
- Raffay, Z., & Gonda, T. (2020). Innovative good practices of accessible tourism. *Modern Geográfia*, 15(4), 1–14. <https://doi.org/10.15170/MG.2020.15.04.01>
- Smith, V., Devane, D., & Begley, C. M. (2011). Methodology in conducting a systematic review of systematic reviews of healthcare interventions. *BMC Medical Research Methodology*, 11(15), 1–6. <https://doi.org/10.1186/1471-2288-11-15>
- Szalai, Á., & Fabula, Sz. (2021). Possibilities and limitations of smart rural development in Hungary. *Modern Geográfia*, 16(1), 59–79. <https://doi.org/10.15170/MG.2021.16.01.04>
- UNWTO. *Digital Transformation*. <https://www.unwto.org/digital-transformation>
- Villacé-Molinero, T., Fernández-Muñoz, J. J., Orea-Giner, A., & Fuentes-Moraleda, L. (2021). Understanding the new post-COVID-19 risk scenario: outlooks and challenges for a new era of tourism. *Tourism Management*, 86, 104324, 1–11. <https://doi.org/10.1016/j.tourman.2021.104324>
- Zsilincsar, W. (2008). E-government at community level: application possibilities on examples from Styria. *Modern Geográfia*, 3(2), 136–151.

APPENDIX

Appendix 1. The list of identified and reviewed sources

Author(s)	Title	Year of publ.	Journal	Seasonality content
Ardito et al.	Big data in smart tourism: challenges, issues and opportunities	2019	Current Issues in Tourism	No
Bastidas-Manzano et al.	The Past, Present, and Future of Smart Tourism Destinations: A Bibliometric Analysis	2021	Journal of Hospitality & Tourism Research	Yes, but marginal
Borges-Tiago et al.	Smart tourism: a scientometric review (2008–2020).	2022	European Journal of Tourism Research	No
Carballido – Plaza	The Smart Destination concept in tourism research. a systematic review of the literature for its definition and normalization	2021	Cuadernos de Turismo	No
Chen et al.	Bibliometric and visualized review of smart tourism research	2022	International Journal of Tourism Research	No
Doborjeh et al.	Artificial intelligence: a systematic review of methods and applications in hospitality and tourism	2022	International Journal of Contemporary Hospitality Management	No
Dorcic et al.	Mobile technologies and applications towards smart tourism – state of the art	2018	Tourism Review	No
Essien – Chukwukelu	Deep learning in hospitality and tourism: a research framework agenda for future research	2022	International Journal of Contemporary Hospitality Management	No
Gong – Schroeder	A systematic literature review of data privacy and security research on smart tourism	2022	Tourism Management Perspectives	No
Huda et al.	Smart Tourism Recommendation Model: A Systematic Literature Review	2021	International Journal of Advanced Computer Science and Applications	No
Johnson – Samakovlis	A bibliometric analysis of knowledge development in smart tourism research	2019	Journal of Hospitality and Tourism Technology	No
Law et al.	A comprehensive review of mobile technology use in hospitality and tourism	2018	Journal of Hospitality Marketing & Management	No
Liang et al.	The relevance of mobile tourism and information technology: an analysis of recent trends and future research directions	2017	Journal of Travel & Tourism Marketing	Yes, but marginal
Lv et al.	A look back and a leap forward: a review and synthesis of big data and artificial intelligence literature in hospitality and tourism	2022	Journal of Hospitality Marketing & Management	Yes, but marginal
Mehraliyev et al.	A state-of-the-art review of smart tourism research	2020	Journal of Travel & Tourism Marketing	No
Mehraliyev et al.	Progress on smart tourism research	2019	Journal of Hospitality & Tourism Technology	No

Molina-Collado et al.	Mapping tourism and hospitality research on information and communication technology: a bibliometric and scientific approach	2022	Information Technology & Tourism	No
Muniz et al.	Customer knowledge management and smart tourism destinations: a framework for the smart management of the tourist experience – SMARTUR	2021	Journal of Knowledge Management	No
Nusair	Developing a comprehensive life cycle framework for social media research in hospitality and tourism. A bibliometric method 2002–2018.	2020	International Journal of Contemporary Hospitality Management	No
Osei et al.	Prospects of the fourth industrial revolution for the hospitality industry: a literature review	2020	Journal of Hospitality and Tourism Technology	No
Pasquale et al.	A Methodology for the Virtual Destination Management based on Users' Involvement: Perspectives and opportunities for the smart growth of destinations	2015	Innovation Management And Sustainable Economic Competitive Advantage: From Regional Development To Global Growth	No
Pertheban et al.	A Systematic Literature Review: Information Accuracy Practices in Tourism	2020	Journal of Quality Assurance in Hospitality & Tourism	Yes, but marginal
Philipp et al.	Towards an Ecosystem of Hospitality: The Dynamic Future of Destinations	2022	Sustainability	No
Rafael	Analysis of scientific production – Smart Tourism Destination, Technology and Sustainability	2020	Advances in Tourism, Technology and Smart Systems	No
Revilla et al.	Proposal of New Strategies for Smart Tourism Destinations in the Challenging New Reality: A Commitment to the Technology –Sustainability Binomial	2022	Sustainability	No
Rodrigues et al.	Enhancing sustainable development through tourism digitalisation: a systematic literature review	2022	Information Technology and Tourism	No
Sia et al.	Systematic review of mobile travel apps and their smart features and challenges	2022	Journal of Hospitality and Tourism Insights	No
Vinan-Ludena	A Systematic Literature Review on Social Media Analytics and Smart Tourism	2019	Smart Tourism As A Driver For Culture And Sustainability	No
Wilson – Tsang	Smart Travel Experiences: A Bibliometric Analysis of Knowledge Domains and Research Areas	2022	Journal of Hospitality & Tourism Research	No
Ye et al.	Systematic Review of Smart Tourism Research	2020	Sustainability	No



Ez a mű a Creative Commons Nevezd meg! – Ne add el! – Ne változtasd! 4.0 nemzetközi licence-feltételeinek megfelelően felhasználható. (CC BY-NC-ND 4.0)

<https://creativecommons.org/licenses/by-nc-nd/4.0/>

This open access article may be used under the international license terms of Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 (CC BY-NC-ND 4.0)

<https://creativecommons.org/licenses/by-nc-nd/4.0/>

