Technology in Tourism and Hospitality to Achieve Sustainable Development Goals (SDGs)(Editorial)

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Citation:

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1. Introduction

At the time of writing this editorial, the tourism industry is at a standstill due to the COVID-19 outbreak. Airlines are being crippled, hotels and leisure services are barely trading and small businesses, which comprise the majority of the hospitality and tourism industry in many countries, are strategising new modes of survival. This is a direct contrast to the picture emerging about a year ago when the industry was faced with an overtourism crisis. Overtourism has now become no tourism. The hospitality and tourism industry is experiencing an unprecedented type of crisis. Hall (2019) commented that the tourism industry was less sustainable than it has ever been despite substantial consideration and research being given to sustainable tourism. A possible explanation for this is the challenge of deciphering the notions and concepts of sustainable tourism into workable approaches which can be easily adopted by businesses. Previously, questions have been raised on limiting tourism's growth which was never accepted in practice due to the economic significance of tourism to many economies and the positive learning experience generated from travelling. The time is opportune for us to stop and reflect on the future direction of the hospitality and tourism industry, one in which technology definitely has a profound role to play in the industry's realisation of the sustainable development goals (SDGs).

Research in eTourism has transitioned from a heavy emphasis on the computer systems to its application to the social, cultural and business management applications and its adoption by stakeholders. This is being facilitated by an ever-changing networked landscape of integrated systems and applications. The year 2015 was landmark for sustainable development as the 2030 Agenda for Sustainable Development and 17 Sustainable Development Goals (SDGs) were approved by governments worldwide in an effort to eradicate poverty, tackle inequality and injustice, protect and preserve the environment and provide prosperity for everyone. Whilst tourism was only explicitly mentioned in goals 8, 12 and 14, the industry does have a critical role to play in achieving all of the SDGs. As a result of this, the year of 2017 was declared as the international year of sustainable tourism development. Since this announcement, there has been a mobilisation of research and projects to facilitate the achievement of SDGs through the channel of sustainable tourism. However, the functionality of the hospitality and tourism industry to facilitate sustainable development and contribute to the achievement of SDGs has been criticised by some scholars and practitioners (Higgins-Desbiolles, 2018). Our current mode of working and living has brought to the fore how dependent we are on technology not only for work but to access essential services and stay connected. It has also highlighted where some travel experiences can still be enjoyed virtually, perhaps allowing others to share in the experience that may not have been able to do so before. For example, Google Arts & Culture worked with over 2500 museums and galleries worldwide to provide virtual tours and exhibits of famous museums. In London, 5 theatres have teamed up to stream free productions at home. Are these virtual experiences akin to the real one? Whilst the experience may not be the same, is the tourist missing any experiences from not being there in person? What is even more interesting to note is that whilst our movements have been temporarily halted, there have been reports that air pollutions levels are decreasing in the Europe, USA and China (Monks, 2020).

The COVID-19 pandemic has brought to the fore the critical importance of technology for sustainable tourism. In recovering from this current crisis, tourism planners are presented with a unique opportunity to consider tourism's role in supporting the achievement of the

2030 SDGs through the use of technology. The role of technology in developing a sustainable future for tourism has been acknowledged by the UNWTO and UNDP (2017). Technology for sustainable tourism provides businesses with opportunities for more effective information management, decision making and stakeholder engagement to protect and preserve the natural, economic and socio-cultural and heritage environments (Ali & Frew 2013; 2014). The 17 SDGs for tourism can be grouped under the broad categories of economic (goals 1, 7, 8, 9, 10, 11, 12), environment (goals 6, 13, 14, 15), social-cultural (goals 2, 3, 4, 5, 16), and governance (17). With regards to the economic SDGs, technology can open up market opportunities to communities and businesses which did not have these chances prior. This provides people with job security, work opportunities and improves their ability to cope with risks (financial and health) and their standard of living by providing a broader range of jobs with entrepreneurial growth. ICT can be used to grow businesses in areas to support the SDGs such as agro-tourism businesses. There are a range of technology-based tools which can be used for tourism planning and development and combatting climate change such as Geographical Information Systems. This helps in realising the environmental SDGs. Technology can be used to support local communities as it democratises participation and allows them to have a say in decisions which they may not been allowed to participate in before. It can be used as a tool to educate both tourists and locals and provide education opportunities which were not available before. It also offers communities alternative mechanisms to preserve and share their local culture, languages, and artefacts with other generations. It is therefore appropriate that researchers are beginning to draw attention on how technology can offer powerful and practical changes in managing the sustainable development of tourism. The value of ICT in achieving the SDGs for tourism will be influenced by how they are engaged with by tourism stakeholders. Therefore, the current special issue called to publish a collection of studies and good practices, which explore the contribution of adoption and development of IT in tourism and hospitality in achieving the SDGs.

2. The papers of this special issue

The six (6) papers in this special issue further contribute to advancing the knowledge in this important corpus. They focus on a diverse range of topics identifying the spectrum of the application of technology for tourism and hospitality to achieve the SDGs.

The first article by Go, Kang and Nam on *The Traces of Ecotourism in a Digital World: Spatial and Trend Analysis of Geotagged Photographs and Google Search Data* discussed tourists' understanding of eco-tourism and their travel behaviour. Their results identified that the majority tourist perceive eco-tourism as being nature-based and involving wildlife. It also showed where in the world tourists posting photos from when they had visited compared to potential tourists who are viewing eco-tourism photos. This paper is important in supporting the SDGs as it helps destinations to plan appropriately by understanding tourist behaviour and how their movement is changing. It also recognises that there is scope for other forms of eco-tourism to be developed.

Blockchain is a rapid growth area for many industries and is the foundation for the most well-known cryptocurrency, bitcoin. According to Liu (2020), investment in blockchain technologies is expected to be worth estimated 15.9 billion by 2023. The conceptual paper by Tham and Sigala on *Road Block(chain): Bit(coin)s for Tourism Sustainable Development Goals?* investigates the contribution of blockchains and cryptocurrencies for achieving the SDGs. The transparency and irreversibility which blockchains provide can foster greater fairness in the economic systems and re-allocation of resources, power and economic

relationships. Blockchains can also enable more inclusive forms of tourism by shifting the focus from economic to socio-cultural. This research revealed that engagement with blockchains can support the SDGs by reducing inequalities, encouraging responsible consumption and production, encouraging industry, innovation and infrastructure, supporting sustainable cities and communities and fostering partnerships.

Micro-businesses form a considerable part of the tourism sector and are often family owned and operated in rural areas and rooted in the community. Improving the opportunities for these tourism businesses can support in achieving the SDG by reducing poverty, creating work opportunities and economic growth and helping to reduce inequality within and among countries. The case study by Ditta-Apichai, Kattiyapornpong and Gretzel on *Platform-Mediated Tourism Micro-Entrepreneurship: Implications for Community-Based Tourism in Thailand* offers an insight into how the sharing economy can support tourism micro-entrepreneurship and sustainable development. The findings revealed that the sharing economy can enrich collaboration and drive innovation between tourism micro-entrepreneurs and local communities. It also identified that if sharing economy platforms work with these micro enterprises, they can create more authentic tourism experiences not only for the tourists, but actually tailored for each individual local community, hence creating a more sustainable product. This research also offers support for investment in local sharing platforms to support community-based tourism development rather than a reliance of the currently dominant platforms.

The paper by Pavia Neto, da Silva, Ferreira and Felipe focuses on *Discovering the Sustainable Hotel Brand Personality on TripAdvisor* considers sustainability as a brand personality attribute. Mining data from 16,175 TripAdvisor reviews for three hotels, the findings recommend a modification of Aaker's (1997) brand personality scale by replacing ruggedness with sustainability. The authors argue that hotels should consider how they reconstruct their brands with a sustainability orientation. This contributes to the SDGs allowing hoteliers to strike stronger connections with environmentally conscious travellers, influence more sustainable consumption patterns and become leaders in sustainability issues.

Tourists' consumption behaviours have a significant impact on sustainable tourism development. Gamification has been identified as a way to incentivise tourists to adopt more sustainable behaviours (Negrusa et al., 2015; Xu, Weber and Buhalis 2017). Focusing on the supply side with interviews, the article by Souza, Marques and Medéia on *How can Gamification Contribute to Achieve SDGS? Exploring the Opportunities and Challenges of Ecogamification for Tourism* identifies how gamification can be strategically used for sustainable tourism. A gamified tourist experience can support the achievement of the SDGs by promoting responsible production and consumption. The results revealed that ecogamificaiton is beneficial in promoting positive tourist environmental behaviour and reducing overtourism because complex information can be communicated through entertainment which increases user engagement. Concerns were raised around the uptake because of the low eco-consciousness of tourists. There was also acknowledgement that ecogamification may not serve it purpose as the fun elements built into the game design may distract from the seriousness of the issues being conveyed.

The final paper in this issue by Arcuri, Gai, Ielasi and Ventisette on *Cyber Attacks on Hospitality Sector: Stock Market Reaction* takes a different perspective by investigating the risk technologies pose and its impact on achieving the SDGs. Using event-study methodology, the findings revealed that the market responded negatively following

announcements of cyber-attacks on hospitality businesses. This paper brings to the fore the importance of risk management in achieving the SDGs.

3. Conclusion

The importance of adoption of ICT to facilitate the path toward sustainable tourism has been identified by several studies (Ali & Frew, 2013; 2014), and in particular due to COVID-19 outbreak, this importance has tremendously been highlighted. Adoption of technology in tourism and hospitality can contribute to achievement of all the 17 SDGs from economic, socio-cultural, and environmental perspectives. The current special issue as a first attempt to publish a collection of good quality papers on *Technology in Tourism and Hospitality to Achieve Sustainable Development Goals (SDGs)* can be of interest to both academics and practitioners towards a more sustainable future in tourism and hospitality industry by adoption of technology, in particular in the new world after COVID-19 outbreak. The guest editors of this special issue editors would like to acknowledge the valuable comments and encouraging support of Cihan Cobanoglu (Editor-in Chief of JHTT) during the first phase of preparation of this special issue, and throughout the process. In addition, the special issue editors would like to heartfully thank the reviewers for their valuable and remarkable contribution to this special issue:

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Marco Scholtz, North-West University, South Africa
Heather Skinner, Manchester Metropolitan University, UK
Man Ling (Elsie) Wong, Taylor's University, Malaysia
Feifei Xu, University of Lincoln, UK
Guojie (Desmond) Zhang, University of Otago, New Zealand
Tingting Zhang, University of Central Florida, USA

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