

## Guest Editorial Preface

# Special Issue on ICT in Culture and Tourism (With Revised and Extended Papers From International Conference on Strategic Innovative Marketing and Tourism 2018)

Stella Sylaiou, School of Social Sciences, Hellenic Open University, Greece & School of Fine Arts, Aristotle University of Thessaloniki, Greece

Christos Fidas, Department of Cultural Heritage Management and New Technologies, University of Patras, Greece

Today, cultural organisations seek to keep redefining their role and continuously transform their cultural communication framework with the help of information and communication technology (ICT) methods and tools, to become more accessible and create an even more participatory environment, enabling visitors to actively engage into learning, educational and entertaining experiences (Sylaiou et al., 2009, Raptis et al., 2019, 2018). ICTs have resulted in applications inside (on-site) and outside (online) of cultural organisations. The advent of ICT in the sectors of culture and tourism have fostered both economic development and social wellbeing (Paliokas and Sylaiou, 2016, Papagiannakis et al., 2018). ICTs are increasingly used by cultural organisations and by the tourism industry, in order to facilitate access to their products; target specific groups of visitors and customers; brand and promote their creative endeavours; and enhance their competitiveness (Amorim et al., 2018, Paliokas et al., 2018, Sylaiou et al., 2018). Recognizing the recent advances of ICT in various disciplines, research within the context of culture and tourism needs to increase in extent and move beyond current knowledge.

This special issue addresses the uses of ICT in culture and tourism by cultural organisations and tourism industry in terms of promoting arts and cultural heritage activities, programs and actions. Moreover, it explores the potentials of these uses as means to attract and serve visitors, and to satisfy their needs. The objective of the special issue was to collect the latest theoretical and empirical research on ICT and its applications in culture and tourism. It is in this venue that this special issue demonstrates several of the perspectives, the challenges and the implications that ICT offer to culture and tourism.

The articles of this special issue examine innovative approaches that provide interesting theoretical and empirical contributions to the pertinent research themes, as well as future prospects and suggestions, deepen and broaden our understanding of the latest trends in ICT with attention to various applications to culture and tourism. Therefore, a wide spectrum of diverse ICT-related applications, approaches and methods are explored with respect to their impact on fostering organisations in the quest to optimise their services in the above sectors.

Namely, uses of serious gamification in cultural organisations are explored, focusing on the development of an up-to-date classification framework, while the use of Instagram by museums is addressed as means to better understand the parameters of the networking functions that encompasses and promotes. In the same vain, the use of Recommenders which have museums as prime ‘targets’ are discussed and approached from a new perspective; furthermore, the research on creating an

integrated spatial database plotted on a historical map is presented as an exemplar of pertinent opportunities for cultural organisation to use ICTs to enrich their resources and use artefacts as base for the development of heterogeneous object-data assemblages, while finally the employment of algorithms and the tagged online imagery of certain destinations are explored in conjunction with a view to their contribution to the visitors' perception of a place and the concomitant implications for marketing managers in the sectors of culture and tourism. The diversity of ICT solutions to the challenges of 21st century is analogous to the complexity of the intersecting need of the visitors/ audiences of cultural organisations: the importance of personalised services, optimisation of ICT tools for access to information and assessment of cultural nodes or destinations' qualitative characteristics, as well as that of their employed ICT-related on-site or online methods.

The article "Minding the Gap between Perceived and Projected Destination Image by Using Information and Communication Platforms and Software" from Florin Nechita, Robert Demeter and Androniki Kavoura, examines a double case study framework for analyzing projected by the marketers and perceived by the visitors' destinations by using ICT solutions. First, 22,362 photos tagged with "Brasov" were collected and analyzed using Flickr API. Second, a proposed online platform generates an automatic score calculation algorithm for place brands obtained by applying the analysis grid to websites based on a ranking system, revealing the online identity of place brands via the tourism agents' eyes. The spatial patterns of tourist activity revealed many similarities and differences compared to promoted attractions by the DMOs. The article concludes that visual imagery may be more fully implemented in research studies and that the distribution of popular tourist attractions may be in synergy between the perceived and projected image of a destination, delineating implications for marketing managers.

In the article "Top museums on Instagram: A network analysis" from Vasiliki Vrana, Dimitrios Kydros, Evangelos Kehris, Anastasios-Ioannis Theocharidis and George Kavavasilis uses techniques of social network analysis, including visualization algorithms and calculations of well-established metrics for analysing the use of Instagram by the most visited museums worldwide. The article describes accounts' performance of 51 museums and investigates their interconnection. For each museum of the ranked list its Instagram account was visited and their Number of Followers, Number of Following, Number of Posts and Number of Likes of the Ten Last Posts were recorded. The research reveals significant differentiations regarding activity, implying that some accounts are very active, while others are only partially involved in spreading information and attracting users. Also, museum accounts that already have a high number of followers are more likely to see new followers, and they are more attractive when they are connected to other museum accounts that are already highly connected. Furthermore, the most important modes of the network are presented by calculating the appropriate centrality metrics and show that the network formed by the museum Instagram accounts is a scale-free small world network.

In "Spatial Organization and Semantic Modelling of Historical Data: The Case of the French Scientific Mission, 1828-29," Eleni Gkadolou presents her research on the creation of an integrated spatial database that incorporates the geographic information from the first systematic mapping of the Hellenic State, by the French Scientific Mission (1828-1829), enriched with multimedia and texts. Having the Semantic Web as point of reference, the concepts of semantic interoperability and geographic data models in the management of historical data are explored. The historical map becomes the medium organising the historical data and narrating the historical knowledge, illuminating the status of the Hellenic State at the time of its establishment, from a spatial point of view. The next step of this research is the development of semantic spatial data for publishing on the Semantic Web.

In the article "Serious Games Classification for Digital Heritage," Ioannis Paliokas proposes a classification schema for Serious Games (SGs) and game-like environments used in museums, and other culture and tourism-related organisations, with respect to their entertaining, informational and educational characteristics, after discussing existing pertinent taxonomies and their characteristics. He explains the lack of a fully-fledged, common language, able to describe and classify Serious Games

(SG) and gamified applications in Digital Heritage (DH), despite the fact they have been well adopted in that sector. The proposed classification model can be used in description, reference, categorization and analysis of DH-related SG characteristics and can be expressed in any modern artificial language such as the eXtensible Markup Language (XML) and the Unified Modeling Language (UML) and support criteria based meta-search engines, while further potential is explored.

Recommenders are systems that employ knowledge on items and user preferences, along with algorithms to provide personalised content and services, thereby tackling the information overload and personalisation demand. They also appeared in the cultural heritage domain as cultural tourism plays an important role for regional economies. George Pavlidis in his article “On the End-to-end Development of a Cultural Tourism Recommender,” presents a review of the domain and draws a generic blueprint for the end-to-end development of a recommender for cultural tourism that outperforms a baseline popularity-based approach. From the technical and intuition perspective, different approaches have been adopted, in the latter, influenced by current conceptualisation and specific application domains and demands. The museum is amongst the main target applications, either as a part of visit support or in the context of cultural tourism initiatives. The proposed end-to-end design is scalable, modular and transferable. The recommender that was implemented based on it, was tested on simulated data and while results are dependable and promising, real-world data implementation is the next step to consolidate its value.

*Stella Sylaiou*  
*Christos Fidas*  
*Guest Editors*  
*IJCMHS*

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