

Information and Communication Technologies in Tourism 2016

Alessandro Inversini • Roland Schegg
Editors

Information and Communication Technologies in Tourism 2016

Proceedings of the International Conference
in Bilbao, Spain, February 2-5, 2016

 Springer

Editors

Alessandro Inversini
School of Tourism
Bournemouth University
Poole, Dorset
United Kingdom

Roland Schegg
HES-SO Valais
Sierre, Valais
Switzerland

ISBN 978-3-319-28230-5

ISBN 978-3-319-28231-2 (eBook)

DOI 10.1007/978-3-319-28231-2

Library of Congress Control Number: 2015958735

Springer Cham Heidelberg New York Dordrecht London

© Springer International Publishing Switzerland 2016

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made.

Printed on acid-free paper

Springer International Publishing AG Switzerland is part of Springer Science+Business Media (www.springer.com)

Preface

Organized by the International Federation for IT and Travel & Tourism (IFITT), ENTER2016 eTourism Conference takes place in Bilbao, Spain, on February 2–5, 2016. The 23rd annual international conference features the latest research and industry case studies on the application of information and communication technologies (ICT) to travel and tourism. The conference theme, ‘eTourism: Empowering Places’, was an invitation to discuss the transformation in travel and tourism due to the latest development in digital technologies.

The research track of ENTER2016 received a total of 132 submissions, 103 of which were full research papers covering a diverse variety of fields within the area of ICT and tourism. Each research paper submission went through a rigorous double-blind review process with members of ENTER2016 Scientific Committee assigned as reviewers. Where issues remained, additional reviews were commissioned. As a result, 56 full research papers were accepted for presentation at the conference and are included in this proceedings.

While still maintaining a broad topic of ICT applications in travel and tourism, the papers presented in this volume advance the state-of-the-art research digital marketing and social media, mobile computing and responsive web design, semantic technologies and recommender systems, augmented and virtual reality, electronic distribution and online travel reviews, MOOC and eLearning, eGovernment and sharing economy. The papers featured in this proceedings bring new perspectives to the field and give a promising evidence that the field of ICT and tourism will continue to contribute to our society. We hope this proceedings will serve as a valuable source of information on the state of the art in ICT and tourism research.

We greatly appreciate the considerable time put in by all members of ENTER2016 Scientific Committee who helped us ensure that the content of the research papers was of high quality. We are indebted to the panel of experts who helped us with additional reviews to select candidates for best paper award.

We are also thankful to ENTER2016 Overall Chair, Aurkene Alzua-Sorzabal, IFITT President, Lorenzo Cantoni, other ENTER2016 organizers, IFITT Board and

all members of IFITT for their support and for accommodating the many inquiries we have made while managing the research track.

Importantly, we thank all authors for their willingness to disseminate their latest research at ENTER2016. This conference would not be possible without their efforts.

Poole, Dorset, UK
Sierre, Valais, Switzerland

Alessandro Inversini
Roland Schegg

ENTER2016 Scientific Committee

Marina Abad Galzacorta, Universidad de Deusto, Spain
Philip Alford, Bournemouth University, UK
Alisha Ali, Sheffield Hallam University, UK
Aurkene Alzua, CICTourGUNE, Spain
Norman Au, Hong Kong Polytechnic University, Hong Kong
Florian Aubke, MODUL University Vienna, Austria
Rodolfo Baggio, Bocconi University, Italy
Srikanth Beldona, University of Delaware, USA
Pierre Benckendorff, University of Queensland, Australia
Matthias Braunhofer, University of Bozen-Bolzano, Italy
Dimitrios Buhalis, Bournemouth University, UK
Lorenzo Cantoni, Università della Svizzera Italiana, Switzerland
Federica Cena, University of Torino, Italy
Cynthia Corrêa, University of Sao Paulo, Brazil
Silvia de Ascaniis, Università della Svizzera Italiana, Switzerland
Giacomo del Chiappa, University of Sassari, Italy
Astrid Dickinger, MODUL University Vienna, Austria
Anneli Douglas, University of Pretoria, South Africa
Roman Egger, University of Applied Sciences Salzburg, Austria
Elsa Estevez, United Nations University, Portugal
Daniel Fesenmaier, University of Florida, USA
Andrew Frew, Queen Margaret University, UK
Matthias Fuchs, Mid-Sweden University, Sweden
Ander Garcia, Vicomtech, Spain
Damianos Gavalas, University of the Aegean, Greece
Basagaitz Gereño Omil, University of Deusto, Spain
Jon Kepa Gerrikagoitia, CICTourGUNE, Spain
Robert Goecke, Munich University of Applied Sciences, Germany
Robert Govers, University of Leuven, Belgium
Ulrike Gretzel, University of Queensland, Australia

Szilvia Gyimothy, Aalborg University, Denmark
Sunny Ham, Gachon University, Korea
Noor Hazarina Hashim, Technology University Malaysia, Malaysia
Wolfram Höpken, University of Applied Sciences Ravensburg-Weingarten,
Germany
Alessandro Inversini, Bournemouth University, UK
Dietmar Jannach, Technical University of Dortmund, UK
Tomasz Janowski, United Nations University, Portugal
Timothy Jung, Manchester Metropolitan University, UK
Nadzeja Kalbaska, Università della Svizzera Italiana, Switzerland
Myunghwa Kang, University of Nebraska, USA
Hidenori Kawamura, Hokkaido University, Japan
Jeongmi Kim, Temple University, USA
Stefan Klein, University of Münster, Germany
Chulmo Koo, Kyung Hee University, South Korea
Tsvi Kuflik, The University of Haifa, Israel
Yohei Kurata, Tokyo Metropolitan University, Japan
Rob Law, The Hong Kong Polytechnic University, Hong Kong
Andy Lee, University of Queensland, Australia
Miranda Lee, University of New Haven, USA
Rosanna Leung, Caritas Institute of Higher Education, Hong Kong
Maria Lexhagen, Mid Sweden University, Sweden
Gang Li, Deakin University, Australia
Maria Teresa Linaza, VICOMTech, Spain
Berendien Lubbe, University of Pretoria, South Africa
Bernd Ludwig, Erlangen University, Germany
Elena Marchiori, Università della Svizzera Italiana, Switzerland
Anastasia Mariussen, Oslo School of Management, Norway
Estela Mariné Roig, Universitat Rovira i Virgili, Spain
Lenia Marques, Bournemouth University, UK
Christian Maurer, University of Applied Sciences Krems, Austria
Michael McGrath, Victoria University, Australia
Luiz Mendes-Filho, Federal University of Rio Grande do Norte, Brazil
Luisa Mich, University of Trento, Italy
Elina Michopoulou, University of Derby, UK
Roberta Minazzi, University of Insubria, Italy
Valeria Minghetti, Ciset—Ca' Foscari University, Italy
Oriol Miralbell, CETT University of Barcelona, Spain
Nina Mistilis, University of New South Wales, Australia
Jamie Murphy, University of Western Australia, Australia
Hilary Murphy, Ecole hôtelière de Lausanne, Switzerland
Julia Neidhardt, Vienna University of Technology, Austria
Barbara Neuhofer, Bournemouth University, UK
Elena Not, Fondazione Bruno Kessler, Italy
Peter O'connor, Essec Business School, France

Irem Önder, MODUL University Vienna, Austria
Bing Pan, College of Charleston, USA
Cody Paris, Middlesex University Dubai, UAE
Sangwon Park, University of Surrey, UK
Harald Pechlaner, Catholic University Eichstätt-Ingolstadt, Germany
Juho Pesonen, University of Eastern Finland, Finland
Birgit Proell, FAW—Johannes Kepler University Linz, Austria
Shanshan Qi, Institute for Tourism Studies, China
Sofia Reino, University of Bedfordshire, UK
Francesco Ricci, Free University of Bozen-Bolzano, Italy
Jackie Rong, Victoria University, Australia
Miriam Scaglione, University of Applied Sciences Valais, Switzerland
Roland Schegg, University of Applied Sciences Valais, Switzerland
Jason Sit, Bournemouth University, UK
Marianna Sigala, University of the Aeagean, Greece
Brigitte Stangl, University of Surrey, UK
Jason Stienmetz, Temple University, USA
Iis Tussyadiah, Washington State University Vancouver, USA
Giampaolo Viglia, Bournemouth University, UK
Vania Vigolo, University of Verona, Italy
Serena Volo, Free University of Bozen-Bolzano, Italy
Dan Wang, The Hong Kong Polytechnic University, Hong Kong
Hannes Werthner, Vienna University of Technology, Austria
Wolfgang Wörndl, Munich Technical University, Germany
Zheng Xiang, Virginia Tech, USA
Masahito Yamamoto, Hokkaido University, Japan
Kyung-Hyan Yoo, William Paterson University, USA
Yulan Yuan, Jinwen University of Science and Technology, Taiwan
Florian Zach, Washington State University Vancouver, USA
Markus Zanker, Alpen-Adria-Universität Klagenfurt, Austria
Lina Zhong, Beijing International Studies University, China
Wei Zhu, Beijing Union University, China

Contents

Part I Website Communication

Bringing Online Visibility to Hotels with Schema.org and Multi-channel Communication	3
Anna Fensel, Zaenal Akbar, Ioan Toma, and Dieter Fensel	
Automatic Persistent Personalization of Ads in Tourism Websites	17
Alberto Rezola, Aitor Gutierrez, and Maria Teresa Linaza	
Connectivity and the Consequences of Being (Dis)connected	31
Adrian Tanti and Dimitrios Buhalis	
Generation of Gamified Mobile Experiences by DMOs	45
Ander Garcia, María Teresa Linaza, Aitor Gutierrez, Endika Garcia, and Ivan Ornes	
Automated Hyperlink Text Analysis of City Websites: Projected Image Representation on the Web	59
Christian Weismayer, Iлона Pezenka, and Wilhelm Loibl	
E-Government Relationships Framework in the Tourism Domain. A First Map	73
Nadzeya Kalbaska, Tomasz Janowski, Elsa Estevez, and Lorenzo Cantoni	
The Role of Information Quality, Visual Appeal and Information Facilitation in Restaurant Selection Intention	87
Salmalina Salleh, Noor Hazarina Hashim, and Jamie Murphy	
Why Are There More Hotels in Tyrol than in Austria? Analyzing Schema.org Usage in the Hotel Domain	99
Elias Kärle, Anna Fensel, Ioan Toma, and Dieter Fensel	

**The Role of Destination in Hotels’ Online Communications:
A Bottom-Up Approach 113**
Elena Marchiori, Fabia Casnati, and Lorenzo Cantoni

**The Co-creation Process of the Online Image of an Italian World
Heritage Site: The Sassi of Matera 127**
Elena Marchiori, Canio Di Nardo, Marcello M. Mariani,
and Lorenzo Cantoni

Part II Social Media and User Generated Contents

**Factors Affecting the Performance of Tourism Crowdfunding
Projects: An Empirical Study 143**
Huiying Li, Zhisheng Wang, Bin Fang, and Yu-Shan Liu

**Enriching Travel Guidebooks with Travel Blog Entries
and Archives of Answered Questions 157**
Kazuki Fujii, Hidetsugu Nanba, Toshiyuki Takezawa, and Aya Ishino

**The ‘Selfie Gaze’ and ‘Social Media Pilgrimage’: Two Frames
for Conceptualising the Experience of Social Media Using Tourists 173**
Michelangelo Magasic

**Exploring Park Visitors’ Activities in Hong Kong using
Geotagged Photos 183**
Huy Quan Vu, Rosanna Leung, Jia Rong, and Yuan Miao

**Tourists Visit and Photo Sharing Behavior Analysis: A Case Study
of Hong Kong Temples 197**
Rosanna Leung, Huy Quan Vu, Jia Rong, and Yuan Miao

**Optimizing the Publication Flow of Touristic Service Providers
on Multiple Social Media Channels 211**
Zaenal Akbar, Ioan Toma, and Dieter Fensel

**Discovery and Classification of the Underlying Emotions in the User
Generated Content (UGC) 225**
Ainhoa Serna, Jon Kepa Gerrikagoitia, and Unai Bernabé

**Differential Destination Content Communication Strategies Through
Multiple Social Media 239**
Assumpcio Huertas and Estela Marine-Roig

**Destination Image Gaps Between Official Tourism Websites
and User-Generated Content 253**
Estela Marine-Roig and Salvador Anton Clavé

**Do Social Media Investments Pay Off?: Preliminary Evidence
from Swiss Destination Marketing Organizations 267**
Thomas Wozniak, Brigitte Stangl, Roland Schegg, and Andreas Liebrich

Alpine Tourists’ Willingness to Engage in Virtual Co-Creation of Experiences 281
 Thomas Wozniak, Andreas Liebrich, Yves Senn, and Myrta Zemp

Localization of Three European National Tourism Offices’ Websites. An Exploratory Analysis 295
 Emanuele Mele, Silvia De Ascaniis, and Lorenzo Cantoni

Social CRM Capabilities and Readiness: Findings from Greek Tourism Firms 309
 Marianna Sigala

Part III Online Travel Reviews

Hotel Website Quality Versus Star Level: The Case of Macau Hotel Websites 325
 Shanshan Qi

An Empirical Examination of Online Restaurant Reviews (Yelp.com): Moderating Roles of Restaurant Type and Self-image Disclosure 339
 Sunyoung Hlee, Jimin Lee, Sung-Byung Yang, and Chulmo Koo

How Far, How Near Psychological Distance Matters in Online Travel Reviews: A Test of Construal-Level Theory 355
 Seunghun Shin, Namho Chung, Doyong Kang, and Chulmo Koo

Online Hotel Reviews: Rating Symbols or Text. . . Text or Rating Symbols? That Is the Question! 369
 Johanna Aicher, Flavia Asiimwe, Bujinlkham Batchuluun, Miriam Hauschild, Martina Zöhrer, and Roman Egger

What Does Hotel Location Mean for the Online Consumer? Text Analytics Using Online Reviews 383
 Zheng Xiang and Matthew Krawczyk

Hotel Responses to Guests’ Online Reviews: An Exploratory Study on Communication Styles 397
 Angelo Bonfanti, Vania Vigolo, and Francesca Negri

Topic Detection: Identifying Relevant Topics in Tourism Reviews 411
 Thomas Menner, Wolfram Höpken, Matthias Fuchs, and Maria Lexhagen

Part IV Mobile Systems and Pervasive Communication

Investigating American iPhone Users’ Intentions to Use NFC Mobile Payments in Hotels 427
 Cristian Morosan and Agnes DeFranco

Generating Paths Through Discovered Places-of-Interests for City Trip Planning	441
Wolfgang Wörndl and Alexander Hefe	
Customer Experiences with Hotel Smartphone: A Case Study of Hong Kong Hotels	455
Tony Lok Tung Hui, Norman Au, and Rob Law	
Assessment of Perceived Risk in Mobile Travel Booking	467
Sangwon Park, Iis P. Tussyadiah, and Yuting Zhang	
Tracking Tourist Spatial-Temporal Behavior in Urban Places, A Methodological Overview and GPS Case Study	481
Lenka Kellner and Roman Egger	
Users' Creativity in Mobile Computing Travel Platforms	495
Lidija Lalicic and Astrid Dickinger	
Pilgrims' Acceptance of a Mobile App for the Camino de Santiago	509
Angela Antunes and Suzanne Amaro	
Innovation-Related Organizational Decision-Making: The Case of Responsive Web Design	523
Chris Gibbs, Ulrike Gretzel, and Zahra Noorani	
Mapping Mobile Touchpoints in Sport Events	535
Alessandro Inversini, Jason Sit, and Harry T. Pyle	
Who Uses Mobile Apps Frequently on Vacation? Evidence from Tourism in Switzerland	549
Michael Beier and Annika Aebli	
Part V Semantic Technology and Recommender Systems	
Correlating Languages and Sentiment Analysis on the Basis of Text-based Reviews	565
Aitor García-Pablos, Angelica Lo Duca, Montse Cuadros, María Teresa Linaza, and Andrea Marchetti	
Contextual Information Elicitation in Travel Recommender Systems	579
Matthias Braunhofer and Francesco Ricci	
Can We Predict Your Sentiments by Listening to Your Peers?	593
Julia Neidhardt, Nataliia Rümmele, and Hannes Werthner	
Part VI Augmented Reality and Virtual Reality	
Augmented Reality at Cultural Heritage sites	607
Frances Tscheu and Dimitrios Buhalis	

Effects of Virtual Reality and Augmented Reality on Visitor Experiences in Museum 621
 Timothy Jung, M. Claudia tom Dieck, Hyunae Lee, and Namho Chung

Understanding the Acceptance of Augmented Reality at an Organisational Level: The Case of Geevor Tin Mine Museum . . . 637
 Eleanor Cranmer, Timothy Jung, M. Claudia tom Dieck, and Amanda Miller

Part VII eLearning and MOOCs

MOOC Camp: A Flipped Classroom and Blended Learning Model . . . 653
 Jamie Murphy, J. Bruce Tracey, and Laurel Horton-Tognazzini

A Framework for Evaluating MOOCs in Applied Hospitality and Tourism Settings 667
 J. Bruce Tracey, Jamie Murphy, and Laurel Horton-Tognazzini

Part VIII Digital Economy

The Impact of Sharing Economy on the Diversification of Tourism Products: Implications for Tourist Experience 683
 Dan Wang, Mimi Li, Pengcheng Guo, and Wenqing Xu

Strategic Self-presentation in the Sharing Economy: Implications for Host Branding 695
 Iis P. Tussyadiah

Forecasting the Final Penetration Rate of Online Travel Agencies in Different Hotel Segments 709
 Miriam Scaglione and Roland Schegg

The Secret of Fundraising on Kickstarter: Colour Congruence 723
 Bell Lee and Andy Lee

Concept of Digital Capability in Businesses: Demonstration by a Case Study on Finnish Online Tools 737
 Kirsi Meriläinen and Joni Kukkamäki

DataTourism: Designing an Architecture to Process Tourism Data 751
 Fayrouz Soualah-Alila, Mickaël Coustaty, Nicolas Rempulski, and Antoine Doucet

The Role of Culture on Online Search Behaviour: A Comparative Study Between British and Chinese Travellers 765
 Elina (Eleni) Michopoulou and Delia Moisa

Value Co-creation and Co-destruction in Connected Tourist Experiences 779
 Barbara Neuhofer