Annals of Tourism Research 48 (2014) 11–26

Contents lists available at ScienceDirect

Annals of Tourism Research

journal homepage: www.elsevier.com/locate/atoures

Adapting to the mobile world: A model of smartphone use

Dan Wang [a,*], Zheng Xiang [b], Daniel R. Fesenmaier [c]

[a] The Hong Kong Polytechnic University, Hong Kong
[b] Virginia Tech, United States
[c] University of Floria, United States

ARTICLE INFO

Article history:
Received 6 February 2013
Revised 14 April 2014
Accepted 28 April 2014
Available online 6 June 2014

Keywords:
Smartphone
Mobile systems
Tourist experience
Technology
Daily life

ABSTRACT

Mobile systems have become important tools enabling tourists to navigate an uncertain world. A critical examination of the literature suggests that work is needed to develop a holistic understanding on the smartphone use for travel. The results of this study confirms that the use of smartphones for travel is shaped by complex interactions between contextual factors, cognitive beliefs, previous experiences and everyday use, and that smartphone use has the potential to substantially transform the tourist experience. A framework is proposed that integrates the mechanisms shaping the adoption, use and impact of smartphones in travel. This framework provides a broad foundation for understanding how mobile systems shape tourist experience while providing directions for future research in the area of mobile computing.

Introduction

Mobile phones have evolved into "smartphones" that are fully functional computers. With powerful and efficient processors, modern operating systems, broadband Internet access, and user-friendly interfaces as well as productivity enhancing apps, the smartphone offers a wide range of possibilities supporting travelers (Gretzel, 2010; Wang, Park, & Fesenmaier, 2012). In recent years, the adoption of smartphones has significantly accelerated since the launch of iPhone (and the apps available through

* Corresponding author.
E-mail addresses: d.wang@polyu.edu.hk (D. Wang), philxz@vt.edu (Z. Xiang), danfesenmaier@gmail.com (D.R. Fesenmaier).

http://dx.doi.org/10.1016/j.annals.2014.04.008
0160-7383/

iTunes) and an army of mobile phones based on the Android system. Smartphone subscribers in the United States, for example, have increased from around forty percent of the US population in February 2012 to sixty-five percent in December 2013 (comScore, 2012a, 2013).

Studies of smartphone use for travel have tended to focus narrowly on particular aspects such as the development of mobile phone applications (e.g. Rasinger, Fuchs, Beer, & Hopken, 2009; Ricci, 2010), the adoption of smartphones as a general information communication tool (e.g. Eriksson & Strandvik, 2009; Kim, Park, & Morrison, 2008) or the impact of smartphone usage on certain aspects of the touristic experience (e.g. Kramer, Modsching, ten Hagen, & Gretzel, 2007; Tussyadiah & Zach, 2012). This research indicates that the smartphone supports tourists' needs for mobility and information/communication on-the-go and, in turn, transforms the meaning of travel (Jansson, 2007; Wang et al., 2012). More recently, a few studies have taken a broader perspective and found that information technology has become woven into the fabric of our everyday life including travel (MacKay & Vogt, 2012). Following from these studies, it is posited in this paper that our understanding of the use of smartphones in travel lies not only in the adoption by the traveler, but also in a more holistic view whereby the smartphone is naturally embedded in everyday life, and the antecedents of adoption and uses of smartphones are linked to the tourist experience. Thus, the overall goal of this study is to develop a general framework which integrates the mechanisms shaping the adoption, use and impact of smartphones in travel.

The use of smartphones in travel

Early conceptions of the tourist experience identified travel as an activity-based process in which tourists plan, travel, and document (Craig-Smith & French, 1994). This is a structural view of the tourist experience wherein travel is a process including pre-trip, during-trip and post-trip stages. Scholars also defined the tourist experience by identifying the tourist's activities and behaviors. For example, Cohen (1972) and MacCannell (1973) described the dichotomy of everyday activities and behaviors during travel, while others have explored the blurring of occupational professionalism and the consumption of tourism (Munt, 1994). More recently, scholars argued that the understanding of the tourist experience should go beyond this activity-based structural view to encompass both the consumption of displayed objects and the subjective interpretation of meanings and motivations of the tourist (Uriely, 2005); as such, the tourist experience is generally understood as an integration of activities, interpretations, and sensations within space and time (Ryan, 2002; Jennings & Weiler, 2006). Further, Wang (2000) introduced the concept of existential authenticity, which views the tourist experience as a potentially existential state of being that is activated by tourists' participatory practices. Therefore, this study aligns with the existing literature wherein the understanding of the tourist experience from these two dimensions (i.e., activities and emotions).

Gretzel and her colleagues (Gretzel, Fesenmaier, & O'Leary, 2006; Gretzel, 2010) argued that the general functions of ICT tools play important and differing roles in shaping the tourist experience within all three stages of a trip (see Fig. 1). In particular, the smartphone enables interactions between the tourist and both the physical and virtual world regardless of location. Indeed, Gretzel and Jamal (2009) argued that adoption and use of mobile technologies are the potential catalyst for a new generation of modern tourists—the so-called "creative tourist class." As a relatively new phenomenon, research on the smartphone in the context of travel has followed one of three research streams. The first stream was initiated within the research area of human-computer interaction and focuses largely on the design aspects of mobile tour guides (e.g. Bellotti et al., 2008; Grün, Werthner, Pröll, Retschitzegger, & Schwinger, 2008), mobile recommendation systems (e.g. Rasinger et al., 2009; Ricci, 2010), navigation systems (e.g. Burigat & Chittaro, 2005; Haid, Kiechle, Goll, & Soutschek, 2008), location-based services (e.g. Kaasinen, 2005), and theme park crowd management systems (Brown, Kappes, & Marks, 2013). Most of these studies adopt a predominantly technical perspective that seeks to design mobile systems which address tourists' needs for personalization and interaction in different travel settings. The second stream of research examines the adoption of mobile information services (i.e., the acceptance and use of mobile information services) in travel. Based on the lens of the technology acceptance model (TAM), some studies examine the intention to use mobile