Mobile Technology, Everyday Experience and Travel

Dan Wang  
*National Laboratory for Tourism & eCommerce, School of Tourism and Hospitality Management, Temple University*

Sangwon Park  
*School of Hospitality and Tourism Management, University of Surrey*

Daniel R. Fesenmaier  
*National Laboratory for Tourism & eCommerce, School of Tourism & Hospitality Management, Temple University*

Follow this and additional works at: [https://scholarworks.umass.edu/ttra](https://scholarworks.umass.edu/ttra)

[https://scholarworks.umass.edu/ttra/2012/Oral/28](https://scholarworks.umass.edu/ttra/2012/Oral/28)

This is brought to you for free and open access by ScholarWorks@UMass Amherst. It has been accepted for inclusion in Travel and Tourism Research Association: Advancing Tourism Research Globally by an authorized administrator of ScholarWorks@UMass Amherst. For more information, please contact scholarworks@library.umass.edu.
Mobile Technology, Everyday Experience and Travel

Dan Wang  
National Laboratory for Tourism & eCommerce  
School of Tourism & Hospitality Management  
Temple University

Sangwon Park  
School of Hospitality and Tourism Management  
University of Surrey  
sangwon.park@surrey.ac.uk

and

Daniel R. Fesenmaier  
National Laboratory for Tourism & eCommerce  
School of Tourism & Hospitality Management  
Temple University

ABSTRACT

Connected mobile devices such as smartphones and tablets have evolved into extremely effective tools that support travelers. In order to provide a more comprehensive understanding of the relationship between everyday use of connected mobile devices and the travel experience, this study explores the mechanisms shaping the changes of travel experience through a two-stage model. The first stage describes the factors in people’s daily lives influencing the use of connected mobile devices. The second stage describes the impact of use of mobile devices on different dimensions of the travel experience. The results of this study confirm that the use of mobile devices in daily life is significantly correlated with use of mobile devices in the travel context. However, the results point to a need for a stronger theoretical foundation identifying the processes shaping the transition from the daily context to travel.

Keywords: mobile, smartphones, technology, travel experience, daily life

INTRODUCTION

The development of mobile technology has turned mobile devices such as smartphones and tablets into full capacity and Internet-enabled computers and have emerged as an important tool supporting tourists before, during and after the trip. Studies suggest that there is a huge potential for connected mobile devices in facilitating travel process (Brown and Chalmers 2003, Modsching, Kramer, ten Hagen, and Gretzel 2007, O’Brien and Burmeister 2003, Rasinger, Fuchs, and Hopken 2007; Wang, Park, and Fesenmaier 2011). However, a critical review of the literature seems to suggest that there is a limited understanding of the factors affecting adoption and use of mobile technology within a tourism context, and that the theories underlying these analyses may not be
Two research questions emerge and of which provide the foundation for this paper: (1) What are the factors influencing the use of connected mobile devices in the travel context? And, (2) How does the use of mobile connected devices influence the travel experience? It is argued that answering these questions is important as they provide the foundation for developing a more comprehensive understanding of connected mobile devices and how they affect the travel experience.

CONCEPTUAL DEVELOPMENT

This study proposes that the use of connected mobile devices in travel context is an extension of the use of connected mobile devices in people’s daily lives, and such use can be influenced by the range of everyday mobile activities. This is based on articles by Larsen, Urry, and Axhausen (2006) that argue that through “de-exoticising tourism” there is a blurring boundary between travel and daily life, and the work of Currie (1997), Ryan (2003, and White and White (2006) regarding the “spillover” effects of everyday behaviors in the travel context. Based upon this literature, it is further posited that the changes of travel experience due to the use of connected mobile devices can be described in a two stage model, where the first stage describes the factors in people’s daily lives influencing the use of connected mobile devices and the second stage relates the impact of use of mobile devices on different dimensions to the travel experience. This section introduces the theoretical foundations of this study and proposes a conceptual framework and related hypotheses.

Travel experience, daily life, and the use of connected mobile devices

Travel is a process in which tourists leave the place where they live and travel to different places, interact with the objects and people in those places, and document travel memories in the formats of photos and videos and/or by purchasing memorabilia (Clawson 1963). As such, the early literature (in 1970s and 1980s) discussing the nature of tourism focus on objective authenticity and “tourist”; for example, MacCannell (1973) argued that tourists seek authenticity and that they show particular fascination in the real lives of others. More recently, Urry (1990) proposed the concept of ‘tourist gaze’ arguing that tourism results from a basic binary division between the ordinary/everyday and the extraordinary, and that tourists must experience distinct pleasures which involve different senses from those typically encountered in everyday life. More recently, Uriely (2005) and others conceptualize tourist experience from a point of view that the distinctiveness of everyday life and tourist experience is somehow blurred by the technological progress, mass media (Lash and Urry 1994), the changes of life style (Ryan 2002) and work style (i.e. the business travelers) (Uriely and Reichel 2000). Further, Larsen, Urry, and Axhausen (2006) proposed the concept of “de-exoticising tourism” whereby the boundaries between dualisms such as leisure and work, away and home, authenticity and inauthenticity, the extraordinary and the ordinary, and guest and host are
blurred. This article suggests that tourism “is no longer a specialist consumer product or a mode of consumption” (Franklin and Crang 2001, p.7) but rather is a kind of living mode which is embedded into one’s everyday life. Based on this understanding, scholars have begun to investigate the “spillover” effects of daily life into the travel experience, and have argued that people carry routines (e.g. read news, participate in social networks) and habits from their daily lives into travel (Currie 1997; Ryan 2003; White and White 2006). Additionally, studies examining the post-adoptive behaviors of technology use (e.g. Jasperson, Carter, and Zmud 2005; Karahanna, Staub, and Chervany 1999) have found that initial adoption and use (i.e. prior use) leads to a set of cognitive beliefs (i.e. perceived usefulness, perceived ease of use, self-efficacy, expectation-confirmation, and trust) which further leads to the continuous use of the technology.

Based upon this literature, this study proposes that prior use and the cognitive beliefs actively shape the use of connected mobile devices in travel context (see Figure 1a). Specifically, the following hypotheses are proposed:

**H1**: The use of connected mobile devices in daily life positively influences a set of cognitive beliefs (i.e. perceived usefulness, perceived ease of use, self-efficacy, and expectation-confirmation) towards the use of connected mobile devices in travel context.

**H2**: This set of cognitive beliefs influences the use of connected mobile devices in travel context.

**The impacts of mobile activities on the travel experience**

Travel is a “linear” process and involves three phases: 1) the anticipatory phase; 2) the experiential phase; and, 3) the reflective phase (Clawson 1963; Craig-Smith and French 1994). Tourists are involved in a series of activities including information search, planning, making reservations, visiting, shopping, dining, and reflection and therefore, the travel experience is an “activity-based” process. Considering that experiences are reflective and inherently personal (Holbrook and Hirschman 1982; Pine and Gilmore 1999), the touristic experience lies “beyond” the temporal dimension (Jennings 2006). Indeed, Volo (2009) defined travel experience as an internal-based consumer concept and which focuses on tourists’ emotions.

Several studies have been conducted to investigate the impact of the use of mobile devices on travel activities and travelers’ emotions. For example, Modsching et al. (2007) identified that the use of mobile tour guide can create spontaneous deviations such as the changes of travel route, duration, and walking distance. A study by O’Brien and Burmeister (2003) similarly found that mobile devices can provide a lot of flexibility for travel; Wang, Park, and Fesenmaier (2011) argued that the smartphones not only can satisfy the functional needs (e.g. find directions) of tourists but also the emotional, hedonic and social needs during the trip. More recently, Wang and Xiang (2011) found
that connected mobile devices and their applications provide comprehensive information services for travel planning, travel facilitation, and travel communication. Based upon this literature, this study posits that the use of mobile devices for travel can affect four dimensions of travel experience including planning style, en-route activities, information sources used for travel planning, and travelers’ emotions (see Figure 1b). Accordingly, this study proposes the following hypotheses

\( H3: \) The use of mobile devices in the travel context significantly influences the travel experience.

**METHODS**

This study used an online questionnaire and consisted of five sections. The first section asked about the ownership of mobile devices (e.g. types of mobile devices the respondents owned). The second section focused on the use of these devices in daily life including the respondent’s use for the type of apps, the functions of mobile devices, and the activities using the mobile devices; the questions were adapted from the survey by comScore (2010). The third section focused on the respondent’s cognitive beliefs regarding the use of mobile devices in travel context including perceived usefulness, perceived ease of use, self-efficacy, and expectation-confirmation. The measurement scales for cognitive beliefs were adapted from the studies by Karahanna, Straub, and Chervany (1999) and Venkatesh, Morris, Davis, and Davis (2003). The fourth section included a series of questions about the extent to which the respondents’ changed their activities and emotions as the result of use of mobile devices. The measurement scale for travel activities and travelers’ emotions were adapted from the studies by Decrop and Snelders (2004) and Hosany and Gilbert (2010) respectively. Last, the fifth section included questions regarding various demographic information. This study was distributed to 30,000 American travelers where the received two reminder emails. A $100
Amazon Gift certificate was used as incentive to increase the response rate. This effort resulted in a total 430 respondents, where 226 travelers reported that they own and use connected mobile devices.

Analysis was conducted in three stages. First, descriptive analysis was conducted to assess the nature of the respondents. Second, a series of analyses examining model construct validity and reliability using confirmatory factor analysis, average variance extracted, and latent variable correlation were conducted to test the measurement model. Specifically, the validity (i.e., convergent and discriminant validity) and reliability (i.e., internal consistence reliability) of the constructs were examined. Third, a structural model was estimated using Partial Least Square (PLS) to test the hypothesized relationships between constructs. PLS was used as it has been shown to be appropriate when data is limited and there are many items used to measure the respective and/or formative constructs (Chin 2010). Importantly, PLS requires minimal restrictions (refers to ‘soft modeling approach’) on measurement scales, sample size, and residual distributions (Chin, Marcolin, and Newsted 2003; Vinzi, Trinchera, and Amato 2010). Further, PLS is a more suitable approach for models that include complex relationships and a large number of manifest variables (i.e., over 20) (Chin 1998; Kleijnen, de Ruyter, and Wetzels 2007).

RESULTS

Table 1 presents demographic information about respondents in this study. As can be seen, females (54.9%) are slightly more prevalent than male (36.3%), and most of travelers using mobile technology are married (67.7%). More than half of respondents are full-time employment (56.2%) followed by retired (13.7%), part-time employment (9.3%) and not employed (8.8%). In addition, American travelers using mobile technology (in this study) are highly educated (95.2% over high school) and annual income seems to follow normal distribution indicating that majority of people are placed on the income level between $50,000 and $149,999 ($50,000 - $74,999 = 13.7%, $75,000 - $99,999 = 15.9%, and $100,000 - $149,999 = 18.1%).

The results of Confirmatory Factor Analysis (CFA) indicate that all of factor loadings are significant and over .70 cut-off point except for two variables: one of Routine (factor loading = .68) and another for Usefulness constructs (factor loading = .68). After removing these two indicators with low-factor loadings, all the constructs meet the criteria of indicator reliability. The CFA results also show higher factor loading scores on corresponding latent variables than on other constructs, which supports the convergent validity suggested by Chin (2010). Table 2 presents the latent variable correlations with AVE. The AVE values of each factor were higher than cross-correlation value and confirm discriminant validity (Fornell and Bookstein, 1982) as they have values that exceed the cut-off value of 0.70. These results indicate convergent validity whereby latent variables account for indicators more than error variance. Furthermore,
composite reliability was estimated to measure internal consistency reliability; again, all reliability estimates (Coefficient alpha) surpass the minimum requirements for an adequate measurement model (Fornell and Bookstein, 1982).

Table 1. Profile of American travelers using mobile technology

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>82</td>
<td>36.3</td>
</tr>
<tr>
<td>Female</td>
<td>124</td>
<td>54.9</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>153</td>
<td>67.7</td>
</tr>
<tr>
<td>Single or never married</td>
<td>25</td>
<td>11.1</td>
</tr>
<tr>
<td>Divorced, separated, widowed</td>
<td>23</td>
<td>10.2</td>
</tr>
<tr>
<td>Living with partner</td>
<td>4</td>
<td>1.8</td>
</tr>
<tr>
<td>Do not wish to comment</td>
<td>1</td>
<td>.4</td>
</tr>
<tr>
<td>Current employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed full-time</td>
<td>127</td>
<td>56.2</td>
</tr>
<tr>
<td>Employed part-time</td>
<td>21</td>
<td>9.3</td>
</tr>
<tr>
<td>Retired</td>
<td>31</td>
<td>13.7</td>
</tr>
<tr>
<td>Not employed</td>
<td>20</td>
<td>8.8</td>
</tr>
<tr>
<td>Do not wish to comment</td>
<td>7</td>
<td>3.1</td>
</tr>
<tr>
<td>Education level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>1</td>
<td>.4</td>
</tr>
<tr>
<td>Completed high school</td>
<td>9</td>
<td>4.0</td>
</tr>
<tr>
<td>Some college, not completed</td>
<td>56</td>
<td>24.8</td>
</tr>
<tr>
<td>Completed college</td>
<td>73</td>
<td>32.3</td>
</tr>
<tr>
<td>Post graduate work started or completed</td>
<td>66</td>
<td>29.2</td>
</tr>
<tr>
<td>Do not wish to comment</td>
<td>1</td>
<td>.4</td>
</tr>
<tr>
<td>Annual household income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $20,000</td>
<td>6</td>
<td>2.7</td>
</tr>
<tr>
<td>$20,000 - $29,999</td>
<td>3</td>
<td>1.3</td>
</tr>
<tr>
<td>$30,000 - $39,999</td>
<td>10</td>
<td>4.4</td>
</tr>
<tr>
<td>$40,000 - $49,999</td>
<td>13</td>
<td>5.8</td>
</tr>
<tr>
<td>$50,000 - $74,999</td>
<td>31</td>
<td>13.7</td>
</tr>
<tr>
<td>$75,000 - $99,999</td>
<td>36</td>
<td>15.9</td>
</tr>
<tr>
<td>$100,000 - $149,999</td>
<td>41</td>
<td>18.1</td>
</tr>
<tr>
<td>$150,000 - $199,999</td>
<td>12</td>
<td>5.3</td>
</tr>
<tr>
<td>$200,000 or more</td>
<td>11</td>
<td>4.9</td>
</tr>
<tr>
<td>Do not wish to comment</td>
<td>43</td>
<td>19.0</td>
</tr>
</tbody>
</table>
The structural model was estimated using PLS-Graph 3.0 with bootstrap resampling method (300 sample generations) to calculate t-values, and the results are presented in the Figure 2. As can be seen, the three constructs representing the daily use of connected mobile devices (i.e. Routine mobile device use (i.e. make a phone call, access to news and weather), Advanced use of mobile devices (i.e. online shopping, pay for bills, and access transportation reports), and Entertainment (i.e. send photo to others, post photo online) explained 24%, 13%, 15% and 14% of perceived usefulness, expectation-confirmation, self-efficacy and perceived ease of use, respectively. However, only the relationships between advanced use and cognitive beliefs are significant, but with trivial impact on the cognitive beliefs (small coefficient values: $\beta_{\text{Advanced use-Usefulness}} = .56$; $\beta_{\text{Advanced use-Self-efficacy}} = .41$; $\beta_{\text{Advanced use-Expect. Confirm}} = .45$; and $\beta_{\text{Advanced use-Ease of Use}} = .48$). As such, H1 is partially supported.

**Figure 2 A Structural Model of Everyday Use of Mobile Devices and Travel Experience**
The relationships between cognitive beliefs and the mobile use activities in travel context, four cognitive beliefs constructs explained 23%, 40%, 23% and 31% of travel planning (i.e. prepare itinerary, make reservations, pay for tickets), general facilitation (i.e. search & browse Internet, search for info. of attractions on-sites), advanced facilitation (i.e. guide tours, translations, virtual tour guides), and experience sharing (i.e. access social networks, share locations) respectively. However, only three path coefficients are significant ($\beta_{\text{Usefulness-General facilitation}} = .31$, $p < .01$; $\beta_{\text{Usefulness-Advanced facilitation}} = .30$, $p < .01$; $\beta_{\text{Expectation confirmation-Advanced facilitation}} = .16$, $p < .01$). As such, H2 is not supported.

The results also show that travel mobile activities are correlated with the changes of travel experience. Four constructs of travel mobile activities explained 57%, 56%, 36% and 44% of the changes of plan style (i.e. no. of places considered to visit, amount of time spent on planning), travel activities (i.e. spontaneous activities en-route, travel spending), planning information channels (i.e. use of TV ads, buying travel guidebooks, printed information), and emotions (i.e. a sense of joy, love, and positive surprise) respectively. However, not all of path estimations are significant, and reflects the differences of different kinds of mobile devices use on their capability to influence travel experience. It seems that general facilitation (i.e. search & browse Internet, search for info. of attractions on-sites) has the most influence on the changes of many dimensions of travel experience including plan style, activity change, and traveler’s emotions. Advanced facilitation (i.e. guide tours, translations, virtual tour guides) seems to be influential in changing the information sources used to plan trips. And experience sharing activities with mobile devices are more likely to change travel activities and emotions. As such, H3 is moderately supported in this study.

**DISCUSSION**

This study explores the mechanisms shaping the travel experience due to use of connected mobile devices. The results indicate that the use of connected mobile devices in daily context affect cognitive beliefs (i.e. perceived usefulness, self-efficacy, expectation confirmation, and perceived ease of use) towards the value of mobile devices for travel-related activities such travel planning, travel facilitation, and experience sharing. Also, the results show that the use of mobile devices for travel-related activities leads to the changes in various aspects of the travel experience. However, the results did not support the hypothesis that cognitive beliefs towards the value of mobile devices for travel related activities would lead to further use of mobile devices in the travel context. That is, the mechanisms explaining the continuous use of technology appear to have limited power in explaining use of connected mobile devices in the travel context.

There are several explanations for the lack of model fit relating daily mobile activities and mobile activities in travel context. Most importantly, the proposed model explaining the transition from the mobile activities in daily life to the travel context is
based upon the technology acceptance model (TAM) developed by Davis (1989) and extended later by Venkatach, Morris, Davis, and Davis (2003), which has been criticized for a failure to consider contextual factors such as the goal of technology use, individual’s learning capability, of which may account for much variance of user’s behavior in using technology (Benbasat and Barki 2007). Indeed, Gretzel (2011) suggested that the theories regarding the adoption and use of technology in organizational settings and social psychology have provided important implications for the studies of tourism and technology. Thus, it argued that future studies examining the factors shaping the use of mobile devices in travel context should consider a wide scope of factors influencing the adoption and use of technology.

REFERENCES


