# Mobile Hotel Booking Technology in the Hotel Industry

**Ahmet Bulent Ozturk**
*University of Central Florida, United States*
Ahmet.ozturk@ucf.edu

**Anil Bilgihan**
*Florida Atlantic University, United States*
abilgihan@fau.edu

**Khaldoon Nusair**
*Sultan QuaboosUniversity, United States*
knusair@squ.edu.om

**Fevzi Okumus**
*University of Central Florida, United States*
*fevzi.okumus@ucf.edu*

***Abstract:*** *The purpose of this study is to develop a theoretical model that investigates the determinants that influence users' loyalty intentions toward mobile hotel booking (MHB) technology. A Web survey will be used to collect the data of the study. The data of this study will be collected from US travelers and US travelers who booked a hotel room through a mobile device at least once in the last six month will be the target population of the study. A marketing company will be contacted to distribute the link for the online questionnaire. The data of the study will be analyzed with AMOS 22.0 utilizing the two-step approach. In the first step, confirmatory factor analysis (CFA) will be performed to test the validly of the scales. In the second step, structural equation modeling (SEM) analysis will be used to test the study hypotheses.*

## Introduction

Online distribution of services, including hotel rooms, flights, travel packages, attraction tickets, cruises, and car rentals has been on the rise due to the benefits that both travelers and companies perceive. The Internet is amongst the most important channel for hotel room distribution. Therefore, adopting an effective e-commerce strategy is a key matter for the lodging industry [1]. Lately, the scene of e-commerce is changing globally and shifting towards mobile commerce (m-commerce) as more consumers use the Internet for shopping by using their mobile devices such as Smartphones. More than 70 percent of people own a Smartphone in the U.S. [2].Smartphones have become the staple of everyday life of US consumers and nine out of ten Smartphone users use their devices daily [3].

Mobile devices have introduced both convenience and easiness to contemporary travelers. Nowadays, it is possible to complete tasks such as banking, scanning documents, reading a restaurant's rating and shopping on-the-go without the need of computer. One of the facilities provided is the convenience to book hotel rooms via mobile devices. Hotel mobile applications (app) and mobile websites are means, which travelers discover and book their rooms. First generation hotel mobile sites and mobile apps provided hotel information such as location, amenities and facilities; now hotel mobile sites and mobile apps not only allows travelers to access hotel information and services but also enables travelers to book their room while they are on-the-go. Mobile apps and mobile websites generate a small portion of total hotel bookings, but their acceptance and popularity are increasing exponentially as more people are moving away from desktops and getting comfortable booking their travel reservations on mobile devices. Mobile apps and websites no longer are new, but the current round of investments increasingly are shifting the initial focus from basic mobile self-service tools to online booking engines. In other words, they are shifting from an added amenity to an online distribution channel. In this study, mobile hotel booking (MHB) is defined as "a location based online distribution information system that enables customers to reserve hotel rooms anytime, anywhere through the use of the wireless Internet, GNSS, GIS, GPS and mobile phones/devices."[4].

The lodging industry had experienced a remarkable increase in mobile channel booking revenue from $753 million to $1,368 billion [5]. Hotel brands are optimistic about the future of mobile booking and they believe that more travelers will turn to their mo-

bile devices to make their hotel reservations. In 2011, mobile travel bookings in the US accounted for just over $2 billion, which was approximately 2% of all online bookings. In 2013, the number increased significantly to $13 billion and was estimated to increase to around $40 billion by 2015 [6]. A more recent study conducted by HeBs Digital (2014) indicated that 15% of hotel bookings came from mobile devices in the first quarter of 2014. Furthermore, last year desktop bookings declined by 5% while booking through mobile devices increased by 84% [7].

All these statistics clearly illustrate that in order to stay competitive and increase revenues, hospitality practitioners need to focus on m-commerce by offering effective mobile booking [4] and they need to ensure customer loyalty from this important channel [8]. In the lodging industry customer loyalty is shrinking. Hotels need to take advantage of the strategic opportunities that MHB technology offers by keeping customers loyal. [8]call to action by stating more insight should clarify the effect of mobile channels on customer loyalty and lists the "impact of mobile Web solutions and app experiences on customer loyalty" (p. 401) as a research priority for the lodging industry. Furthermore, [4]state that it is critical for both practitioners and academics to understand the factors that influence the usage of MHB.

Previous research did not investigate the post adoption behaviors of MHB users, customer loyalty in particular. Customer loyalty is central to marketing research [9]. Creating and maintaining loyalty helps firms to develop long-term, mutually beneficial relationships with customers [10]. Loyal customers exhibit attachment and commitment toward the firm, and show resistance to competitors offerings' [11]. Also, it is known that loyal customers are willing to pay more, express higher purchase intentions, and resist brand switching [12]. Therefore, considering the crucial importance of retaining customers, this study aimed to develop a theoretical model that investigates the determinants that influence users' loyalty intentions towards MHB technology.

Concepts such as self-efficacy, perceived ease of use, compatibility and perceived convenience are developing relevance in mobile booking due to the critical role they play in technology adoption. By integrating aforementioned constructs with loyalty, current research fills an important research gap. The majority of the prior studies have used instrumental beliefs (e.g., perceived ease of use, perceived complexity, service quality, and technical barriers) as the antecedents to mobile services loyalty. In this study, however, in addition to perceived ease of use, personal differences such as compatibility and self-efficacy and system characteristics including convenience were also included in the research model. Then this multidisciplinary integrated model can help us explain why self-efficacy, compatibility and convenience is important in MHB.

## 1. Literature Review

### 1.1. Self-efficacy

Self-efficacy is defined as the "generative capability in which cognitive, social and behavioral sub-skills must be organized into integrated courses of action to serve innumerable purpose" [13,p. 391]. Self-efficacy is the belief an individual maintains as to how well he/she can perform a task [14]. It is a key concept of social cognitive theory [15], and affects what behaviors people choose to perform, the amount of effort they are ready to use, and the amount of time they will persist to overcome obstacles [15]. According to Bandura's theory, individuals with high self-efficacy are more likely to view difficult tasks as something to be mastered rather than something to be avoided.

Self-efficacy in general is related to actual behavior [16]. Technology self-efficacy is the personal belief that the person has the adequate and accurate aptitudes and skill set to succeed when dealing with a technology related task [17]. Based on [18]'s mobile banking service study, current research focuses on whether individuals believe that they have the necessary knowledge, skill or ability to use MHB technology.

### 1.2. Perceived Convenience

Convenience is amongst the most common incentives for consumers to shop online [19] and it is even a more important motivation for m-commerce. Customer perceived online shopping convenience is one of the crucial determinants of success of online businesses [20]. In tourism context, by using Internet, purchasers of tourism products and services enjoy convenience by comparing rates, accessing more flexible rates, saving time, and reducing both costs and negotiation time in front of their screens [21]. Recently, more travelers are trading in their desktops and laptops for the ease and convenience of booking trips on-the-go. When similar products and services exist, convenience can be an important factor in users' acceptance because the basic technology and service have already been tested and standardized [22]. In the

case of online booking, travelers can choose from similar products (e.g. hotel website, OTA, mobile app, etc.), therefore convenience should be an important factor for MHB. Enabling users to make reservations quickly and easily on a mobile device yields to a high perceived convenience and this is expected to increase the loyalty towards mobile booking.

The concept of convenience has distinct dimensions including *time* (i.e. product may be provided at a time that is more convenient for the customer), *place* (i.e. product may be provided in a place that is more convenient for the customer), *acquisition* (i.e. firms may make it easier for the customer, financially and otherwise, to purchase their products), *use* (i.e. product may be made more convenient for the customer to use) and *execution* (i.e. the most obvious convenience is simply having someone provide the product for the consumer) [23].

Even though [23] proposed five dimensions for the concept of convenience in the marketing area, based on the perspective provided by [24], perceived convenience in the present study was defined as a level of convenience toward time, place and execution. This is because acquisition convenience is not necessarily relevant to using technology, and it is not easy to distinguish use of convenience from 'ease of use' that has been not been considered it the context of this study.

In the context of MHB, time and place dimension refers to the degree of perception held by someone that he/she can use MHB technology to accomplish their booking at a time and place that is more convenient for them. And execution dimension refers to the degree of perception held by someone that he/she finds MHB convenient in the process of booking a hotel room.

### 1.3. Compatibility

Compatibility is the degree to which an innovation is perceived to be consistent with the potential users' existing values, previous experiences, and needs. High compatibility leads to preferable adoption of mobile systems [25]. Compatibility is an important under-studied attribute in the TAM [19]. Compatibility has effects on both behavioral intention to use through perceived usefulness, and actual use through behavioral intention to use [25]. According to Technology Task Fit Theory, the technology's compatibility with users' existing values and beliefs, previously introduced ideas, and needs are important [23,26]. Thus, the inclusion of compatibility construct in the research model is reasonable. Greater compatibility results in a faster rate of technology adoption.

### 1.4. Perceived Ease of Use

Perceived ease of use is a key component of technology adoption and usage behavior [27, p. 320].defined perceived ease of use as "the degree to which a person believes that use of a particular system would be free of effort (i.e. easy to comprehend or operate [28, 29]. It is associated with users' evaluation of the effort involved in the progression of utilizing a technology [30]. Perceived ease of use positively affects the intention to use mobile apps [3]. In this study, perceived ease of use refers to the degree to which an individual considers that using MHB technology is free from effort [27].

### 1.4. Loyalty

Loyalty is conceptualized as customers' favorable attitude towards a brand [31].Creating and maintainning customer loyalty helps companies develop long-term, mutually beneficial relationships with customers [10]. Loyal customers exhibit attachment and commitment toward the company, and are not attractted to competitors offerings [11]. The notion of e-loyalty extends traditional brand loyalty to the technology-mediated online consumer experience [32, 33]. The term e-loyalty is specified as consumers' intention to revisit a website or purchase again from an online vendor [33, 34]. Traditionally, e-loyalty is derived from the ease of ordering, product information and selection, on-time delivery, customer confidence, adequate privacy policies, online resources, e-commerce quality, trust, and commitment [1, 35].In alignment with the studies in the context of e-commerce, mobile loyalty (m-loyalty) also depends on consumers' intention to revisit a mobile website resulting in repeat purchasing behavior [36]. However, as mentioned previously, with the increased popularity of mobile apps in the hotel industry, customers are now able to book their hotel rooms not only through mobile websites but also through mobile apps. In this study, loyalty was defined as users' behavioral intentions to continuously use MHB technology and recommend it to other users.

## 2. Research Model and Hypotheses

Self-efficacy affects users' system anxiety which eventually affects the perceived ease of use and perceived usefulness of the system [37].Prior research focused on examining the effects of self-efficacy on perceived ease of use [38, 30, 39].[40]. highlight the

strong relationship between self-efficacy and ease of use. This designates that users regard the system easier to use when their conviction in their own efficacy regarding the target system. Consequently, we relate MHB specific self-efficacy to ease of use in the model and hypothesize that:

H1: *There is a positive relationship between self-efficacy and perceived ease of use.*

The 'ease of use' is a determinant of the convenience [24]. Convenience is a key advantage of online shopping, and difficulties with site navigation and the checkout process are the factors that consumer abandon shopping online. Therefore, perceived ease of use is expected to have a positive influence on user's perception of convenience in their interaction with the mobile booking site. Therefore we posit:

H2: *There is a positive relationship between perceived ease of use and perceived convenience.*

Previous research support that compatibility has a positive influence on attitudes towards online shopping and on perceived usefulness and on ease of use of online purchasing [41].High compatibility leads to preferable adoption and research shows that compatibility positively and directly influences both perceived usefulness and behavioral intention to use [25]. Compatibility was found to be a primary determinant of consumer attitude towards using online stores [29]. [43] found that that compatibility is a significant indicator for the adoption of mobile banking. Compatibility is also an important antecedent for perceived ease of use [44]. Based on the arguments above we posit the following hypotheses:

H3: *There is a positive relationship between compatibility and perceived ease of use.*
H4: *There is a positive relationship between compatibility and perceived convenience.*
H5: *There is a positive between compatibility and loyalty.*

Users that believe that a technology is easy to operate are more likely to have a favorable attitude towards the technology, which in return increases users' willingness to utilize it in the future [42, 27]. In TAM, technology use is determined by behavioral intention. Perceived ease of use positively influences the attitude toward intended action, which in this study is loyalty. Therefore we propose the following hypothesis:

H6: *There is a positive relationship between perceived ease of use and loyalty.*

With advancement the Internet and mobile technologies, travelers can gain unlimited access to the information they require and enjoy a wider range of choices. Then, sustaining a high level of online shopping convenience has increasingly become a key driving force for brands, with the aim of enhancing customer loyalty [20].Hence:

H7: *There is a positive between perceived convenience and loyalty.*

## 3. Methodology

### 3.1. Instrument

After an extensive literature review, an online questionnaire will be developed and a pilot test will be conducted to ensure clarity and face validity of the questionnaire. All scales will be measured using existing scales that had been validated. All responses will be based on a 7-point Likert-type scale ranging from 1-strongly disagree to 7-strongly agree. The scales will be modified slightly to reflect the MHB context. The questionnaire will be distributed to industry experts to identify if there are any problems with the design of the questionnaire and to make sure that respondents understand the directions and questions. Required modifications will be made as a result of the pilot test.

### 3.2. Sampling and Data Collection

An online questionnaire will be used to collect the data of the study. The data of this study will be collected from US travelers. US travelers who booked a hotel room through a mobile device at least once in the last six month will be the target population of the study. A screening question will be used and participants will be excluded from the survey if they had not booked a hotel room in the last six months through a mobile device. A marketing company will be contacted to distribute the link for the online questionnaire.

### 3.3. Data Analysis

In the initial stage, univariate analyses will be conducted on all variables. Descriptive statistics will be used to calculate means and standard deviations for all variables. All demographic information of MHB technology users will be developed by using the participants' age, gender, education, and income. In the

second stage of data analysis, multivariate analyses will be conducted. The data of the study will be analyzed with AMOS 22.0 utilizing the two-step approach recommended by [45]. In the first step, confirmatory factor analysis (CFA) will be performed to test the validly of the scales. In the second step, structural equation modeling (SEM) analysis will be used to test the study hypotheses.

## 4. Implications

Mobile booking is changing the marketing and distribution landscapes of the lodging industry [5]. It is expected that mobile booking will become the predominant distribution channel for the lodging industry. In addition, MHB could be a powerful tool to drive loyalty. Through proprietary apps, brands can offer travelers convenient ways to book hotel rooms while on-the-go. Within the lodging context, understanding the current capabilities of mobile booking and the antecedents of loyalty to mobile booking can help the lodging industry develop more user friendly mobile websites and applications and effective distribution strategies via mobile channels. New technologies, mobile technology in particular, grant customers powerful influences in the world of business. It is expected that the mobile platform will play a key role not only in the distribution of the rooms but also in establishing and strengthening customer relationships and brand loyalty [46].

MHB technology can be used as a marketing tool to increase repeat bookings and create word of mouth recommendations. In this regard, the findings of the study will provide useful information to travel supplies, OTAs and hotel operators in identifying the factors affecting customers' decision making process in adopting MHB technology. Equipped with this information, hotel operators and OTAs will be able to best utilize MHB technologies in their organizations and will be able to come up with effective marketing strategies to attract more customers, thereby creating continuous competitive advantage.

## References

[1] A. Bilgihan, and M. Bujisic, "The effect of website features in online relationship marketing: A case of online hotel booking", *Electronic Commerce Research and Applications*, (2014), Ahead of Print, doi:10.1016/j.elerap.2014.09.001.

[2] A. Nielsen, "Mobile Millennials: Over 85% Of Generation Y Owns Smartphones", (2014). Retrieved from:http://www.nielsen.com/us/en/insights/news/2014/mobile-millennials-over-85-percent-of-generation-y-owns-smartphones.html (accessed: 05.01.2015).

[3] B. Okumus, and A. Bilgihan, "Proposing a model to test smartphone users' intention to use smart applications when ordering food in restaurants", *Journal of Hospitality and Tourism Technology*, *5*, 1 (2014), pp. 31-49.

[4] H. Y. Wang, and S. H. Wang, "Predicting mobile hotel reservation adoption: Insight from a perceived value standpoint", *International Journal of Hospitality Management*, *29*, 4 (2010), pp. 598-608.

[5] D. Wang, Z. Xiang, R. Law, and T. P. Ki, "Assessing hotel-related smartphone apps using online reviews", *Journal of Hospitality Marketing & Management*, (2015), (accepted manuscript) DOI:10.1080/19368623.2015.101222

[6] Hotel News Now, 2014.Retrieved from: http://www.hotelnewsnow.com/article/13064/5-things-to-know-3-February-2014 (09.12.2014).

[7] HeBS Digital Mid-Year Review: The Rising Tide of Mobile Bookings – How Hoteliers Can Stay Afloat, 2014. Retrieved from:http://blog.hebsdigital.com/mid-year-review-the-rising-tide-of-mobile-bookings-how-hoteliers-can-stay-afloat/ (accessed:04.01.2015).

[8] J. Kandampully, T. Zhang, and A. Bilgihan, "Customer loyalty: a review and future directions with a special focus on the hospitality industry", *International Journal of Contemporary Hospitality Management*, *27*, 3 (2015), pp. 379-414.

[9] E. Toufaily, L. Ricard, & J. Perrien, "Customer loyalty to a commercial website: descriptive meta-analysis of the empirical literature and proposal of an integrative model", *Journal of Business Research*, *66*, 9, (2013), pp. 1436–1447.

[10] Y. Pan, S. Sheng, and F.T. Xie, "Antecedents of customer loyalty: An empirical synthesis and reexamination", *Journal of Retailing and Consumer Services*, *19* , 1 (2012), pp. 150–158.

[11] K.K.F. So, C. King, B.A. Sparks, and Y. Wang, "The influence of customer brand identification on hotel brand evaluation and loyalty development", *International Journal of Hospitality Management*, *34*, (2013), pp. 31–41.

[12] H. Evanschitzky, B. Ramaseshan, D.M. Woisetschläger, V. Richelsen, M. Blut, and C. Back-

haus, "Consequences of customer loyalty to the loyalty program and to the company", *Journal of the Academy of Marketing Science*, *40*, 5 (2012).

[13] A. Bandura,"Self-efficacy mechanism in human agency", *American Psychologist*, *37*, 2 (1982), pp. 122-147.625-638.

[14] A. H. Huffman, J. Whetten, and W. H. Huffman, "Using technology in higher education: The influence of gender roles on technology self-efficacy", *Computers in Human Behavior*, *29*, 4 (2013), pp. 1779-1786.

[15] A. Bandura, "The explanatory and predictive scope of self-efficacy theory", *Journal of Social and Clinical Psychology*, *4*, 3 (1986), pp. 359-373.

[16] A. Bandura, "On the functional properties of perceived self-efficacy revisited",*Journal of Management*, *38*, 1 (2012), pp. 9-44.

[17] T. McDonald, and M. Siegall,"The effects of technological self-efficacy and job focus on job performance, attitudes, and withdrawal behaviors", *The Journal of Psychology*, *126*, 5 (1992), pp. 465-475.

[18] P. Luarn, and H. H. Lin, "Toward an understanding of the behavioral intention to use mobile banking", *Computers in Human Behavior*, *21*, 6 (2005), pp. 873-891.

[19] L. Chen, M. L. Gillenson, and D. L. Sherrell, "Enticing online consumers: an extended technology acceptance perspective", *Information & Management*, *39*, 8 (2002), pp. 705-719.

[20] L. Jiang, Z. Yang, and M. Jun, "Measuring consumer perceptions of online shopping convenience",*Journal of Service Management*, *24*, 2 (2013), pp. 191-214.

[21] J. J. Wu, and Y. S. Chang, "Towards understanding members' interactivity, trust, and flow in online travel community", *Industrial Management & Data Systems*, *105*, 7 (2005), pp. 937-954.

[22] H. D. Yang, J. Lee, C. Park, and K. Lee, "The adoption of mobile self-service technologies: effects of availability in alternative media and trust on the relative importance of perceived usefulness and ease of use. *International Journal of Smart Home*, *8*, 4 (2014), pp. 165-178.

[23] L. G. Brown, "Convenience in services marketing", *Journal of Services Marketing*, *4*, 1 (1990), pp. 53-59.

[24] C. Yoon, and S. Kim, "Convenience and TAM in a ubiquitous computing environment: the case of wireless LAN", *Electronic Commerce Research and Applications*, *6*, 1 (2007), pp. 102-112.

[25] J. H. Wu, and S. C. Wang, "What drives mobile commerce?: an empirical evaluation of the revised technology acceptance model. *Information & management*, *42*, 5 (2005), pp. 719-729.

[26] D. L. Goodhue, "Understanding user evaluations of information systems", *Management Science*, *41*, 12 (1995), pp. 1827-1844.

[27] F. D. Davis, "Perceived usefulness, perceived ease of use, and user acceptance of information technology", *MIS Quarterly, 13*, 3 (1989), pp. 319-340.

[28] W. Y. Jen, and M. C. Hung, "An empirical study of adopting mobile healthcare service: The family's perspective on the healthcare needs of their elderly members",*Telemedicine and e-Health*, *16*, 1 (2010), pp. 41-48.

[29] S. Lim, L. Xue, C. C. Yen, , Chang, ...and M. Choolani, "A study on Singaporean women's acceptance of using mobile phones to seek health information", *International Journal of Medical Informatics*, *80,* 12 (2011), pp. 189-202.

[30] V. Venkatesh, "Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model", *Information Systems Research*, *11*, 4 (2000), pp. 342-365.

[31] K. Keller, "Conceptualizing, measuring, and managing customer based equity", *Journal of Marketing, 57*, 1 (1993), pp. 1-22.

[32] M. Corstjens, and R. Lal,"Building store loyalty through store brands", *Journal of Marketing Research*, *37*, 3 (2000), pp. 281-291.

[33] F. F. Reichheld, and P. Schetter, "E-loyalty: your secret weapon on the Web", *Harvard Business Review, 78*, 4 (2000), pp. 105-113.

[34] C, Flavian, M. Guinaliu, and R. Gurrea, "The role played by perceived usability, satisfaction and

consumer trust on Website loyalty", *Information & Management, 43*, 1 (2006), pp. 1-14.

[35] M. Wolfinbarger, and M. C. Gilly, "eTailQ: dimensionalizing, measuring and predicting etail quality", *Journal of Retailing*, *79*, 3 (2003), pp. 183-198.

[36] D. Cyr, M. Head, and A. Ivanov, "Design aesthetics leading to m-loyalty in mobile commerce", *Information & Management, 43*, 8 (2006), pp. 950–963.

[37] M. Igbaria, and J. Iivari, "The effects of self-efficacy on computer usage", *Omega*, *23*, 6 (1995), pp. 587-605.

[38] V. Venkatesh, and F. D. Davis, "A theoretical extension of the technology acceptance model: Four longitudinal field studies", *Management Science*, *46*, 2 (2000), pp. 186-204.

[39] Y. M. Yi, and Y. Hwang, "Predicting the use of web-based information systems: self-efficacy, enjoyment, learning goal orientation, and the technology acceptance model", *International Journal of Human-Computer Studies*, *59*, 4 (2003), pp. 431-449.

[40] R. Agarwal, V. Sambamurthy, and R.M. Stair, "Research report: the evolving relationship between general and specific computer self-efficacy-an empirical assessment" *Information Systems Research*, *11* (2000), pp. 418–430.

[41] Á. H. Crespo, M. M. G. de los Salmones, and I. R. del Bosque, "Influence of Users' Perceived Compatibility and Their Prior Experience on B2C e-Commerce Acceptance", (2013). In *Electronic Business and Marketing* (pp. 103-123).Springer Berlin Heidelberg.

[42] L. D. Rosen, K. Whaling, S. Rab, L. M. Carrier, and N. A. Cheever, "Is Facebook creating "iDisorders"? The link between clinical symptoms of psychiatric disorders and technology use, attitudes and anxiety. *Computers in Human Behavior*, *29*, 3 (2013), pp. 1243-1254.

[43] N. Koenig-Lewis, A. Palmer, and A. Moll, "Predicting young consumers' take up of mobile banking services", *International Journal of Bank Marketing*, *28*, 5 (2010), pp. 410-432.

[44] U. Akturan, and N. Tezcan, "Mobile banking adoption of the youth market: perceptions and intentions", *Marketing Intelligence & Planning*, *30*, 4 (20 12), pp. 444-459.

[45] J. C. Anderson, and D. W. Gerbing, "Structural equation modeling in practice: a review, recommended two-step approach", *PsychologicalBulletin, 103*, 1(1988), pp. 411-423.

[46] J. Anuar, M. Musa, and K. Khalid, "Smartphone's application adoption benefits using mobile hotel reservation system (MHRS) among 3 to 5-star city hotels in Malaysia", *Procedia-Social and Behavioral Sciences*, *130*, (2014), pp. 552-557.