

# Factors Affecting the use of Mobile Application in Tourism Industry



Sangeetha K. S, Sowmya Sarasan, Indu Manish Kumar

**Abstract:** Mobile application has changed the world and day to day lives of people. It has also changed our travel experience by making it more reasonable, useful and effective. Acknowledging the tremendous influence of travel mobile applications towards the travel industry, it made the scholars to know the aspects that influence the traveller's aim to use the mobile travel apps. Moreover the UTAUT are among the user's intention model and used limitedly in tourism sector. Thus, the main purpose of the paper is to identify the intention of travellers to use the travel mobile app by using the UTAUT model. This study will come up with different perception of consumer's adoption and preferences of travel mobile apps.

**Keywords:** UTAUT model, Travel apps, Mobile

## I. INTRODUCTION

The change in the urban travel patterns and transportation policy goals require that the transportation researcher has to improve their plan and forecast the demand for travel. The advancement in the internet based technologies and universal use of web to get information have enforced the tourism industries to develop new structure to face various market dispute and to boost their position in a highly ruthless sector (Boyd, D. & Ellison, N; 2007, Leor Dana Pi Pietro & Eleonara Pantano; 2013). The increased amount of information available has changed the travel behaviour of tourists (Buhalis & Law, 2008; Sigala 2001; Nina enter & Eleni Michopoulou).

Mobile applications are forecasted to create various chances for business as it provides benefits to the mobile users (Wong, Tan, Ooi & Lin, 2015) combination of mobiles along with mobile application has created a development in consumer industry (Teo, Tan, Ooi, & Yew, 2012; Lau Kah Yan, Lee Sook Yan, Looi Lee Kheng, Tan Yee Ler ;2015). These

applications must be developed in such a way that it fulfil consumer's wants, preferences and the condition of usage to confirm it is beneficial ( Arhippainen & Tahti, 2003; Lau Kah Yan, Lee Sook Yan, Looi Lee Kheng, Tan Yee Ler).

The usage of travel apps are mainly for the logistical purpose, to maintain contact with people, it also helps in planning the travel and to seek information on hotels and also to know reviews (TripAdvisor, 2015; Dickinson et. al. , 2015; Nurzehan Abu Bakar, Roslizawati Che Aziz, Marlisa Abdul Rahim, Nor Maizana Mat Nawi, Abdullah Mohammed Yusoff, Hazi Hafizah Usolludin, 2019). Even though there is an increase in reputation and eminence of these travel apps it was known that around 50% among travellers are not attracted to use these travel apps (AARP real responsibilities, 2017). Therefore, it's important to study the usage of travel apps amongst the tourists. Likewise, it is identified that the issued works exploring the tourist's purpose of usage and adoption of travel apps are less. Majority of researches have only concentrated on user behaviour leaving an undetermined area of research. Therefore, the aim of the research is to identify the factors affecting the usage of mobile apps among the tourists.

## II. PROBLEM STATEMENT

The organisation has to make sure that the mobile application technology obtainable matches both internally and externally with the existing technology capabilities (GSI, 2008). Many researches has been done on the mobile application technology adoption in tourism industry but there are very less researches conducted with respect to the factor that causes the acceptance of travel application in tourism industry. Tourism industry is one of the major providers to the increased economic growth (Alqatan, Singh, & Ahmad, 2011). Therefore, the use of travel application amongst tourism industry may set off the Indian economy. Since mobile perforation rate increases, it is a scope for organisations to use mobile application as a major tool for promotion in increasing the image of the organisation (Anuar, Musa, & Khalid, 2014).

## III. OBJECTIVES

1. To investigate the variables and their influences on destination and accommodation choice of consumers while planning the trip.
2. To study the variables and their influence on continuous purchase intention on travel app uses.
3. To study the variables and its influences on the original travel holiday plans of consumers.

Manuscript received on February 10, 2020.

Revised Manuscript received on February 20, 2020.

Manuscript published on March 30, 2020.

\* Correspondence Author

**Sangeetha K. S\***, Commerce and Management, Amrita VishwaVidhyapeetham, Coimbatore, India. Email:xyz1@blueeyesintlligence.org

**Sowmya Sarasan**, Commerce and Management, Amrita VishwaVidhyapeetham, Coimbatore, India.. Email:xyz2@blueeyesintlligence.org

**Dr. Indu manish kumar**, Assistant Professor, Commerce and Management, Amrita VishwaVidhyapeetham, Coimbatore, India.. Email:xyz3@blueeyesintlligence.org

© The Authors. Published by Blue Eyes Intelligence Engineering and Sciences Publication (BEIESP). This is an [open access](https://creativecommons.org/licenses/by-nc-nd/4.0/) article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

# Factors Affecting the use of Mobile Application in Tourism Industry

## IV. LITERATURE REVIEW

### Mobile application

Mobile application can be defined as software application that needs a movable device which delivers definite utilities to the consumers to make their life more easy (Li, Chen & Shi, 2014 and Lau Kho yan, Lee sook Yan, Looi Lee Khung, Tan yee Ler, 2015). Mobile apps played a significant part in growth of tourism organisations (Bethapudi, 2013; Lau kah yan, Lee sook Yan, Looi Lee Khung, Tan yee, Ler, 2015).

### Mobile application in tourism

Wang, Xiang & fesenmair,(2014) and Moritze Christian, (2015) argued that the information available through mobile devices are mainly used for checking the status of flights and searching restaurants , which will make feel travellers more comfortable during their journey, to avoid early planning and to have a good informative travel experience.

Performance expectancy or perceived usefulness refers to the belief of an individual that the technology will helps them to simplify their task performance (Venkatesh et al, 2003; Soek Kang, 2014). Increase in performance expectancy, will lead to the continuous use of mobile apps (Kang, 2014; Nurzehan Abu baker & Abdullah Muhammed Yusoff, 2019). Various studies have found that the Performance expectancy is a relevant factor for the use technology across many areas including mapping apps (Gupta & dogra,2017; Nurzehan Abu baker & Abdullah Muhammed Yusoff,2019),travel apps (Gupta & dogra,2017; Nurzehan Abu baker & Abdullah Muhammed Yusoff,2019),website of rural accommodation (Guitierrez & Herrero,2012; Nurzehan Abu baker & Abdullah Muhammed Yusoff,2019),low cost website ( Escobarrodriguize & Carvajal Trujillo,2014; Nurzehan Abu baker & Abdullah Muhammed Yusoff,2019) and payment through mobile (Slade,Williams,Dwivedi & Piercy,2014; Nurzehan Abu baker & Abdullah Muhammed Yusoff,2019). Based on the above study, researchers suggest following Hypothesis

H1: Perceived usefulness influences the usage of app in destination choice

H2: Perceived usefulness influences the usage of app in accommodation choice

H3: Perceived Usefulness has a significant impact on continuous purchase intention of users of travel mobile apps Effort expectancy or perceived ease of use can be defined as the degree of individuals effort to use an information system (Miadinovic & xiang, 2016; Nurzehan Abu baker & Abdullah Muhammed Yusoff, 2019). Higher effort expectancy will gain spontaneous acceptancy by the user as very less effort on learning is required (Evon & Lau, 2016; Nurzehan Abu baker & Abdullah Muhammed Yusoff, 2019).

The studies using UTAUT disclosed that the effort expectancy has positively affected the purpose of technology use in several areas especially travel mobile application (Gupta et al, 2018; Nurzehan Abu baker & Abdullah Muhammed Yusoff, 2019). Since many researchers found out the effort expectancy has strongly influenced the behavioural intention. Therefore the following hypothesis:

H4: Ease of use influences the usage of app in accommodation choice.

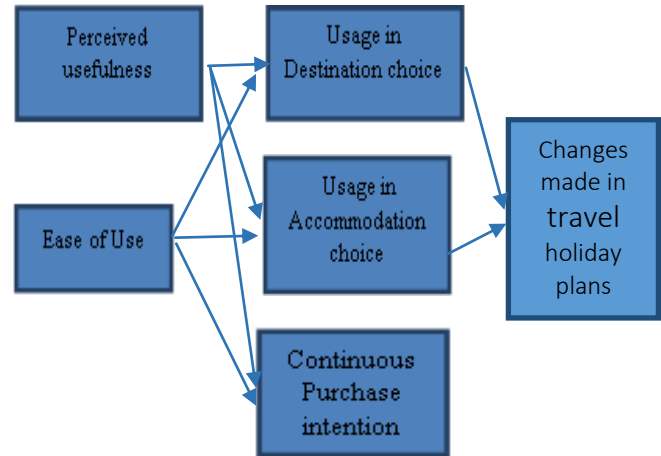
H5: Ease of use influences the usage of app in destination choice.

H6: Ease of Use has a significant impact on continuous purchase intention of users of travel mobile apps.

H7: Usage of app in destination choice will lead to changes in travel holiday plans.

H8: Usage of app in accommodation choice will lead to changes in travel holiday plans.

### Proposed hypothetical model



## V. RESEARCH METHODOLOGY

Descriptive and exploratory design has been used for this study. This study is based on a survey of the respondents. For that 150 samples were selected and purposive sampling is the technique used and are scored on a 5- point Likert scale. Primary and secondary data was used. Questionnaire was used to collect primary data and these are analysed through Statistical package for Social Sciences (SPSS). The relation between the variables were analyzed through regression analysis. While secondary data consist of various journals, articles, and information from websites.

From extensive literature review it is understood that “Perceived usefulness” and “Ease of Use” were the two relevant factors that play a key role in the travel app consumer decision making process. The scales to measure these variables were taken from previous research works (John Fortis, Dimitruos Buhalis, Nicolas Rossides (2012), Seok Kang (2014). A ‘4’ item scale was used to measure “Perceived usefulness” and ‘4’ item scale was used to measure “Ease of Use”.

## VI. DATA ANALYSIS AND INTERPRETATION

The objective of this paper is to study the factors that lead to the use of mobile application in tourism industry. The relation between various variables has been identified through regression analysis.

In this study, the first hypothesis states that the perceived usefulness influence the destination choice of consumers.

Table 1 shows the result of the study

**Table 1. INFLUENCE OF PERCIEVED USEFULNESS IN USAGE OF APP IN DESTINATION CHOICE**

		Unstandardized Coefficient of B	Sig.
R <sup>2</sup>	0.138	-	-
Adjusted R <sup>2</sup>	0.132	-	-
F	23.736	-	0.000
Constant	-	2.185	0.000
Perceived Usefulness of the respondent	-	0.588	0.000

A linear regression established that the perceived usefulness of the app could statistically significantly predict the usage of app in destination choice,  $F(1, 148) = 23.736, p = .000$  (Table 1) and the perceived usefulness of the app accounted for 13.2% of the explained variability in the usage of App in destination choice. The regression equation was: predicted usage of App in destination choice =  $2.185 + 0.588x$  (perceived usefulness of the app). Thus, hypothesis one is accepted.

**Table 2: INFLUENCE OF PERCIEVED USEFULNESS IN USAGE OF APP IN ACCOMODATION CHOICE**

		Unstandardized Coefficient of B	Sig.
R <sup>2</sup>	0.115	-	-
Adjusted R <sup>2</sup>	0.109	-	-
F	19.320	-	0.000
Constant	-	2.491	0.000
Perceived Usefulness of the respondent	-	0.507	0.000

As per the linear regression, the perceived usefulness of the app could statistically significantly predict the usage of app in accommodation choice,  $F(1, 148) = 19.320, p = .000$  (Table 2) and the perceived usefulness of the app accounted for 10.9 % of the explained variability in the usage of App in accommodation choice. The regression equation was predicted usage of app in accommodation choice =  $2.491 + 0.507x$  (perceived usefulness of the app). Thus, hypothesis two is proved.

**Table 3: INFLUENCE OF PERCIEVED USEFULNESS ON CONTINUOUS PURCHASE INTENTION**

		Unstandardized Coefficient of B	Sig.
R <sup>2</sup>	0.289	-	-
Adjusted R <sup>2</sup>	0.284	-	-
F	60.235	-	0.000
Constant	-	1.194	0.000
Perceived Usefulness of the respondent	-	0.496	0.000

It is clear from the linear regression, that the perceived usefulness of the app could statistically significantly predict the purchase intention,  $F(1, 148) = 60.235, p = .000$  (Table 4) and the perceived usefulness of the app accounted for 28.4 % of the explained variability in purchase intention of app. The regression equation was predicted the purchase intention of app =  $1.194 + 0.496x$  (perceived usefulness of app). Hence, hypothesis three is supported.

**Table: 4 INFLUENCE OF EASE OF USE IN USAGE OF APP IN DESTINATION CHOICE**

		Unstandardized Coefficient of B	Sig.
R <sup>2</sup>	0.070	-	-
Adjusted R <sup>2</sup>	0.064	-	-
F	11.133	-	0.001
Constant	-	2.397	0.000
Ease of Use	-	0.443	0.001

As per the linear regression conducted, the Ease of use of the app could statistically significantly predict the usage of app in destination choice,  $F(1,148) = 11.133, p = .001$  (Table 4) and the ease of use of the app accounted for 6.4 % of the explained variability in choice of destination of app. The regression equation was predicted the choice of destination of app =  $2.397 + 0.443x$  (ease of use). So hypothesis four is accepted.

**Table: 5 INFLUENCE OF EASE OF USE IN USAGE OF APP IN ACCOMODATION CHOICE**

		Unstandardized Coefficient of B	Sig.
R <sup>2</sup>	0.101	-	-
Adjusted R <sup>2</sup>	0.095	-	-
F	16.560	-	0.000
Constant	-	2.267	0.000
Ease of Use	-	0.501	0.000

According to linear regression conducted it is clear that the ease of use has significant influence on usage of app in accommodation choice,  $F(1,148) = 16.560, p = .000$  (Table 5) and the ease of use of the app accounted for 9.5 % of the explained variability in choice of accommodation of app. The regression equation was predicted the choice of accommodation of app =  $2.267 + 0.501x$  (ease of use). Hence, hypothesis five is accepted.

**Table: 6 INFLUENCE OF EASE OF USE ON CONTINUOUS PURCHASE INTENTION**

		Unstandardized Coefficient of B	Sig.
R <sup>2</sup>	0.127	-	-
Adjusted R <sup>2</sup>	0.121	-	-
F	21.601	-	0.000
Constant	-	1.459	0.000
Ease of Use	-	0.349	0.000



Ease of use of the app could statistically significantly predict the purchase intention as per the linear regression,  $F(1,148) = 21.607$ ,  $p = .000$  (Table 6) and the ease of use of the app accounted for 12.1 % of the explained variability in purchase intention of app. The regression equation was predicted the purchase intention of app  $= 1.459 + .349x$  (ease of use). Thus, hypothesis six is proved.

**Fig 7: INFLUENCE OF CHOICE OF DESTINATION ON ORIGINAL HOLIDAY TRAVEL PLAN CHANGES**

		Unstandardized Coefficient of B	Sig.
R <sup>2</sup>	0.059	-	-
Adjusted R <sup>2</sup>	0.053	-	-
F	9.292	-	0.003
Constant	-	4.838	0.000
Choice of Destination	-	-0.407	0.003

The choice of destination has a significant impact on changes that made on original travel plans according to the linear regression,  $F(1,148) = 9.292$ ,  $p = .003$  (Table 7) and the changes made in the original travel plan accounted for 5.3 % of the explained variability in choice of destination of app. The regression equation was predicted the choice of destination of app  $= 4.838 + (-.407)x$  (changes made in original travel app). Thus, hypothesis seven is proved.

**Table 8: INFLUENCE OF ACCOMODATION CHOICE ON ORIGINAL HOLIDAY TRAVEL PLANS**

		Unstandardized Coefficient of B	Sig.
R <sup>2</sup>	0.052	-	-
Adjusted R <sup>2</sup>	0.046	-	-
F	8.154	-	0.005
Constant	-	4.861	0.000
Choice of Accommodation	-	-0.406	0.005

A linear regression recognized that the Changes made in the original travel plan could statistically significantly predict the choice of Accommodation,  $F(1,148) = 8.154$ ,  $p = .005$  (Table 8) and the changes made in the original travel plan accounted for 4.6 % of the explained variability in choice of accommodation of app. The regression equation was predicted the choice of accommodation of app  $= 4.867 + (-.406)x$  (changes made in original travel app). Hence, hypothesis eight is accepted.

### VII. IMPLICATIONS

The study conducted using the UTAUT for travel apps use proposes that the perceived usefulness and ease of use are the key variable which influences the choice of destination, accommodation and continuous purchase intention. In practical context, these variables help in providing the current status of the usage of mobile apps. Mobile app dealers and mobile application developers should consider ease of use and purpose. The mobile application creators must increase the potential of mobile app for performing task so that there will be continuous usage among the users.

### VIII. CONCLUSION

The main purpose of this paper is to study the factors that influence the use of mobile applications amongst the tourists. The model used in this study was UTAUT model. In this research, Perceived usefulness and Ease of Use are the key variables that significantly affect the destination choice, accommodation choice, continuous purchase intention of mobile app and changes made in the original travel plan among the tourists. This paper explains how the UTAUT model affects the travelers' intention in the use of mobile travel applications. This research paper will thus benefit the industry players such as the organisations, app developers, and tourism businesses by providing them with knowledge regarding the preferences of consumers and travel mobile app usage. This knowledge will help to develop more mobile travel apps which will attract more consumers and thus increases profit. Thus, This research paper able to deliver a basic knowledge which is essential for the future research purposes, the software developers and government who wants to bring development to the tourism industry in India.

### REFERENCE

1. Abdul Mohsin Alkhunaizan., Steve Love., "An Empirical study of the social Individual Differences on Mobile Social Network Service use"; European, Mediterranean & Middle Eastern Conference on Information Systems 2013,(EMCIS2013),October 17-18 2013, Windsor, United Kingdom
2. A. Gupta; N. Dogra (2017), "Tourist adoption of mapping apps: A UTAUT2 Perspective of smart travellers", Tourism and Hospitality Management., Vol. 23., No. 2, pp- 145-161, 2017
3. Anand Bethapudi (2013), "The role of ICT in Tourism Industry"., Journal of applied Economics and Business., Vol-1, issue -4- December, .2013, PP- 67-79
4. Angel Herrero-Crespo., Hector San Martin Gutierrez, (2012)., "Influence of the user's psychological factors on the online purchase intention in rural tourism: Integrating innovativeness to the UTAUT framework"., Tourism Management, vol-33,10.1016-j.tourman.2011.04.003-April,2012
5. Arhippainen, L., & Tahti, M. (2003)., "Empirical Evaluation of User Experience in Two Adaptive Mobile Application Prototypes", .2nd International Conference on Mobile Idots Proceedings, (pp. 27-34).
6. Boyd., d.m., & Ellison., N. B. (2007): "Social network sites: Definition, history, and scholarship. Journal of Computer-Mediated Communication", 13(1),- 210-230.
7. Cheong Shy Hong., Lim Kah Sin., Sei Wai Lun, .Tan Guan Zhou (2015).: "Determinants of Behavioural intention towards Facebook-Commerce among university students"; MK013-1501, Universiti Tunku Abdul Rahman
8. Choy-Har- Wong.,Garry Wei-Han Tan., Keng-Boon Ooi, Binshan Lin (2015) ;"Mobile shopping: the next frontier of the shopping industry? An emerging market perspective"; Int. J. Mobile Communications, Vol-13, No. 1, 2015
9. Dan Wang., Zheng Xiang., Rob Law , Tang Pui Ki (2016).: " Assessing Hotel-related smartphone apps using online reviews"; Journal of hospitality marketing and Management, Vol- 25.,2016-issue 3
10. Dimitrios Buhalis, Rob Law (2008).: "Progress in information technology and tourism management: 20 years on and 10 years after the internet- The state of eTourism research"; Tourism Management, Vol-29,issue 4, August 2008, Pages 609-623
11. Enter, N and Michopoulou, E. (2013) "An investigation on the Acceptance of Facebook by Travellers for Travel Planning" eReview of Tourism Research (e-RTR) Vol. 4
12. Emma Slade, Michael Williams, Yogesh Dwivedi and Niall Piercy, "Exploring consumer adoption of proximity mobile payments"; Journal of strategic marketing, Volume 23, 2015 - Issue 3
13. Escobar-Rodríguez, Tomás and Elena Carvajal-Trujillo, "Online drivers of consumer purchase of website airline tickets"; Journal of Air Transport Management, 2013, vol. 32, issue C, 58-64

14. Evon Tan., Jasmine Lau (2016).: "Behavioural intention to adopt mobile banking among the millennial generation", Young consumers, Vol-17.:Page: 18-31, April, 2016
15. Florian Zach., Ulrike Gretzal., D.R Fesenmaier, (2008).: "Tourist Activated Networks: Implications for Dynamic Packaging Systems in Tourism", Information Technology & Tourism, Vol. 13,; pp. 1-000
16. Garry Wei-Han Tan.,(2012) "Predicting the Consumers Intention to Adopt Mobile Shopping: An emerging Market Perspective", ;International Journal of Network and Mobile Technologies Vol-3.:Page:24-39
17. Jazira Anuar., Mushaireen Musa., Khazainah Khalid.(2013).; "Smartphone's Application Adoption Benefits Using Mobile Hotel Reservation System (MHRS) among 3 to 5-star City hotels in Malaysia", Procedia ; Social and Behavioural Sciences 130, ( 2014 ) ,552 – 557
18. Jelena Miladinovic., Hong Xiang., "A Study on Factors Affecting the Behavioural Intention to use Mobile Shopping Fashion Apps in Sweden",May-2016
19. John Fortis., Dimitrios Buhalis and Nicos Rossides (2012), "Social media use and impact during the holiday travel planning process", School of Tourism, Bournemouth University., U. K
20. Lau Kah Yan., Lee Sook Yan., Looi Lee Kheng., Tan Yee Ler ( 2015); "Factors influencing the adoption of mobile application among tourism organizations in Malaysia"
21. Leordana di Pietro., Eleonora Pantano, (2013), "Social Network influences on Young tourists: An exploratory analysis of determinants of the purchasing intention", Journal of direct, data and digital marketing practice 15, 4-19,(2013)
22. Lucy Gitau., Dr. David Nzuki (2014); "Analysis of Determinants of M-Commerce Adoption by Online Consumers", .International Journal Of Business.. Humanities and Technology; Vol-4, No 3; May 2014
23. Mariana Sigala. (2001) "Professional development in hospitality and tourism education: a strategy for the 21st century", International Journal of Tourism Research, Vol-3, July 2001, Page-328-330
24. Moritz., Christian (2015); "Mobile application Development in the Tourism Industry and its impact on On-Site Travel Behaviour"
25. Nurzeihan Abu Baker: Roslizawati Che Aziz: Marlisa Abdul Rahim.; Nor Maizana Mat Nawi: Abdullah Mohamed Yusoff, Hazi Hafizah Usolludin ( 2019), " Behavioural Intention to use travel mobile apps in Malaysia" Journal of Tourism, Hospitality And Environmental Management, , Vol: 4 Issues: 13 ,March 2019, Page:09-16]
26. Saleh Alqatan: Dalbir Singh Valbir Singh: Kamsuriah Ahmad (2011):"A theoretic discussion of tourism M-commerce", A theoretic discussion of tourism M-commerce,Vol-6, Issue no-12;Dec 2011
27. Seok Kang, (2014), Department of Communication, University of Texas at San Antonio: "Factors influencing intention of mobile application use"; Int. J. Mobile Communications- Vol.12- N. 4, 2014
28. Sivapragasam. Panneerselvam (2013): The healthy organisation construct: A review and research agenda", Department of Management Studies, 2013, Vol-17, issue-3, Page: 89-93
29. Tan, G., Lee, V., Lin, B. and Ooi, K. (2017); "Mobile applications in tourism: the future of the tourism industry?" Industrial Management & Data Systems, Vol. 117, No. 3, pp. 560-581.
30. Tutunea Mihaela Filofteia (2016), "Mobile applications for tourism-study regarding their use by Romanians"; Issue 4/2016
31. Vishwanath Venkatesh (2003), "User acceptance of Information Technology: Toward a Unified view";. MIS Quarterly, Vol. 27, No. 3, Page. 425-478-September 2003
32. Vi Thi Tuong Tran; Ngoc Vu Nhu Phan; Tu Ngoc Nguyen, Huong Hue DO (2017): "An impact of social media and online Travel Information search in Vietnam", Global review of research in review in Tourism, Hospitality and Leisure Management, Vol: 3, issue: 1



**Sowmya Sarasan**, M.Com Finance and System, Amrita School of Arts and Science, Kochi



**Dr. Indu Manish Kumar**, Assistant Professor, commerce and management, Amrita School of Arts and Science, Kochi

### AUTHORS PROFILE



**SANGEETHA K. S**, M.Com Finance and System, Amrita School of Arts and Science, Kochi