

## Travel Mobile Applications Technology: Examining the Reliability and Validity of Instruments

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### Abstract

*In the existing era of globalization, the Internet acting an important role in people's lives. It also changes people's travel style by providing cheaper, easier, and more efficient prices. However, limited attention has been given to the study of young tourists using their mobile phones to book and plan their travels. Therefore, using quantitative methods, the purpose of this pilot study was to evaluate the validity and reliability of the instrument used in measuring the factors that influence the use of travel mobile application technology among tourists in Kuala Lumpur. A sum of 100 data samples were analyzed using the statistical software of IBM SPSS 25. Prior to that, the content and validity of the data, reliability and normality of the data were examined based on expert evaluation. The results of the pilot study indicate that the measurement instruments used in this study are reliable, and the data prove a rational norm. The study's results provide overall support for the instruments proposed for further research.*

**Keywords:** Mobile Application, Young Traveller, Technology, Kuala Lumpur

### Introduction:

Travel companies' methods of communicating with clients have been altered by the swift progress, distribution, and growing use of mobile advancements. Mobile travel apps have changed how travelers travel nowadays and how travel companies contact their consumers. The impact of mobile technology applications would not be denied, whether among millennials, adventurers, or experimental travellers. Although the popularity and greatness of mobile applications are growing, more than 50% of tourists were found to be uninterested in using mobile applications for trips [1]. Only a small proportion of travellers used their mobile phone for mapping out their holiday and buying flight tickets, compared to doing this through online travel sites on computers [9]. This is in line with a study conducted by [5], that 65% of travellers turned to mobile sites for travel than 58% who used apps for traveling activities.

Travelers are not willing to use travel applications on mobile devices because they find the application useless or take up too much memory [5]. Also, most tourists in the market do not visit often, as they only travel occasionally. Therefore, they refuse to download travel applications to their phones because they only use the booking service several times a year [2]. In addition, the type of tourist also affects the use of the app. For example, millennial travelers only choose the low-priced options like Trivago, Skyscanner and Airbnb when arranging travel preparation. They don't opt for luxury applications like American Airlines, United Airlines, or Marriott, since they may have little travel budgets, as they are just getting started [8]. Similarly, published literature examining travelers' desire to use or practice travel mobile applications is extremely rare. Many studies have only focused on the use of applications in M-banking

[7]; [3], and M-commerce [4], leaving unexplored research areas.

In light of the aforementioned matters, scrutinising the reliability and validity of the projected measuring gauge is germane to the manner of influencing the determinants that may affect the acceptance of using travel mobile apps amongst travellers. Soundness and fidelity i.e. reliability are primary purposes of preventing complications that may undermine important research projects.

## METHODOLOGY

### Instrumentation and Measurement

The present study outlined three sections (sections A, B, and C) for the necessary data collection, in accordance with the study's requirement. Section A emphasized the construct of independent variables, whereas Section B paid attention to the respondents' intended behaviours in adopting travel mobile apps. Finally, Section C focused on socio-demographic background. Table 1 outlines the assessment tools for every variable included in the study. With regard to the scale points, a five-point Likert's Scale was used for every item in Sections A and B, with a range from '1-Strongly Disagree' to '5-Strongly Agree'. The survey employs the five-point Likert's Scale to obtain more improved expressions by the respondents, as well as to raise their response frequency and data value.

**Table 1: The details of the study variables**

Section	Construct	Items No.	Scales Sources
<b>A</b>	- Performance expectancy	5 items	(Ventakesh et al, 2003)
	- Effort expectancy	4 items	
	- Social Influence	5 items	
	- Facilitating Condition	5 items	
<b>B</b>	Behavioural Intention	4 items	(Ventakesh et al, 2003)
<b>C</b>	Demographic Profile	7 items	Researcher
<b>Total of the Items</b>		30 items	

### Data Distribution

The test was conducted by looking at the skewness and kurtosis, and the score demonstrated a positive score. This specifies that the data were sloped and peaked (leptokurtic) to an extent, instead of the normal distribution (Std error), yielding 0.406 for skewness and 0.787 for kurtosis. Both values are confined to the limited range of  $\pm 1.96$ , indicating that all combined formations are normally distributed, which postulates that normality deviation is not extremely excessive.

### Data Analysis

Data analysis is a methodical procedure of applying numerical and rational approaches to conceive, explain, compress, summarise, and assess data. As mentioned by [6], different analytical procedures "provide a method to draw inductive conclusions from information and recognize signals from sound contained in data. Data collection was accomplished in Kuala Lumpur during week days. Approximately 100 respondents answered the questions in the pilot test. By using IBM SPSS version 25, the Cronbach's Alpha value was calculated to analyse the study's data. Table 3 lists the details of the data values

## RESULT AND DISCUSSION

### A. Result of Reliability Test

This study tested the reliability and validity earlier running the actual data collection process. To enhance reliability, researchers follow four criteria: (1) configure all variables, (2) improve measurement stages, (3) use several indicators, and (4) conduct pilot studies. Take the place from the rule by [8] in Table 2,

values lower than 0.6 are considered weak, whereas 0.70 is considered good and 0.8 is better, while values above 0.9 are considered excellent. Scores for items lower than 0.70 have been deleted or refined.

Table 2: Sekaran & Bougie (2017) rule of thumb

Alpha Coefficient	Strength of Association
< 0.6	Poor
0.6 to <0.7	Moderate
0.7 to <0.8	Good
0.8 to <0.9	Very Good
0.9>	Excellent

[10]

Additionally, essential precautions were ensured by the researchers so that the scales' content validity is applied. Therefore, experts from different universities had been invited to scrutinise and authenticate the content. Table 2 shows the outcome gained from the pilot study. From the obtained data, all measures clearly display high values of reliability, namely, Performance Expectancy (0.832), Effort Expectancy (0.876), Social Influence (0.822), Facilitating Condition (0.881), and Behavioural Intention (0.956), all of which show good internal constancy. Instruments with coefficients of 0.60 and above are deemed to possess regular liabilities [10]. Consequently, the questionnaire can be regarded as an endorsed document and may be employed in conducting research for the future.

Table 2: Alpha Coefficient score for each of construct

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**Factors Affecting the Adoption of Cronbach's Alpha No. of Items**  
**Travel Mobile Apps Technology**

**SECTION A**

Performance Expectancy	0.832	5
Effort Expectancy	0.876	4
Social Influence	0.822	5
Facilitating Condition	0.881	5

**SECTION B**

Behavioural Intention	0.956	4
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**SECTION C**

Demographic Profile	-	7
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**CONCLUSION**

The purpose of conducting this pilot study was to ensure the robustness (validity) and suitability (reliability) of the measurement factors that influence the adoption of travel mobile application technology among travellers prior to actual research. Pre-tests had been carried out prior to experts' evaluation of the content's authenticity and items' accuracy in the questionnaire. The results from the reliability test specified that the whole questionnaire is deemed reliable, possessing Cronbach's Alpha values beyond 0.7. Hence, no item needs to be deleted, since each of them is suitable. Besides, values

from the normality test indicate that the data are comparatively normal, authenticating the feasibility of the study's procedure. Generally, a questionnaire is validated from a valid "reliable and constructive" analysis. The actual research, which is expected to gather more than 300 respondents, could provide insights into the impact of travel mobile application technology, especially in terms of travel and tourism. It is hoped that the findings of this study will contribute to existing knowledge in related areas, particularly in the areas of technology and tourism, and will be beneficial to governments, non-governmental organizations, retailers, and practitioners to establish marketing strategies in the technology and tourism industry. Simultaneously, this study is hoped to become a standard for other upcoming research.

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