Integrative model for the adoption of tour itineraries from smart travel apps

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Abstract

Purpose – Travelers are increasingly planning trips using smart travel planning apps to manage travel-related activities. They obtain their preferred tour itineraries with the use of these apps and subsequently choose their tour destinations. Therefore, the purpose of this study is to investigate the effects of smart tour itineraries on travelers and explain what drives the continual use of them.

Design/methodology/approach – Drawing on the unified theory of acceptance and the use of technology model and experiential consumption (UTAUT), the authors conducted this study in Malaysia with a sample of 307 travelers who are familiar with the use of mobile apps.

Findings – The results confirmed that all the UTAUT dimensions except the facilitating condition are significantly related to the intention to use the itinerary. Both the hedonic and utilitarian values in personal consumption significantly motivate the travelers in the behavioral intention to use the itinerary.

Originality/value – This paper offers a good explanation of how the itinerary plans can be used by examining the theories behind the current app's usage. Many researchers have examined the adoption of the smart travel apps, which has rarely been tied to the antecedents that drive how the travelers use itineraries that are designed by the smart travel apps. This study contributes to the research regarding using the mobile travel apps by developing an integrative model to explain the traveler intentions to use smart travel itineraries.

Keywords Hedonic value, Experiential consumption, Utilitarian value, Smart travel apps, Tour itineraries, Unified theory of acceptance and the use of technology model (UTAUT)

Paper type Research paper

摘要

论智慧旅游App整合旅游行程采纳模型

研究目的 – 游客越来越多地使用智慧旅游计划App来管理他们的旅游相关活动。他们通过这样的App获得行程从而选择他们旅游目的地。因此，本论文旨在研究智慧旅游行程对游客的影响，并探究哪些因素驱使他们继续使用智慧旅游行程。

研究设计/方法/途径 – 本论文采用UTAUT模型，在马拉西亚取样，共搜集到307位熟悉移动App的游客数据。

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研究结果 – 研究论文结果肯定了UTAUT各项因素除了辅助条件, 其他因素都显著与使用智慧行程息息相关。享乐型价值和实用型价值都对游客个人使用行为有着显著效果。

研究原创性/价值 – 本论文通过检验App使用理论解释了行程计划如何被使用。许多研究学者已经检验了智慧旅游App的使用, 但是很少真正与游客如何使用App生成行程的驱动因素相结合。本论文对理论有贡献, 通过开发整合模型以解释游客使用智慧旅游行程的行为。

关键词旅游行程、智慧旅游App、UTAUT、体验性消费、享乐型价值、实用型价值

文章类型 研究型文章

1. Introduction

The growth and the extensive use of the smart travel apps is a trend in many industries, which includes the tourism and hospitality industry (Lai, 2015; Law *et al.*, 2018). Smart travel apps are mobile applications that are designed so the travelers can manage travel-related activities (Anshari and Alas, 2015; Choi *et al.*, 2019; Dorcic *et al.*, 2019). Tourists now use the mobile Web, which allows the travelers to search for tour activities, accommodations and flight bookings as well as other popular attractions. The tour operators have responded to demand by using travel apps to develop good relationships with the tourists and create more memorable and interactive experiences (Lu *et al.*, 2015). Many studies reported about the use of mobile technology and its overall impact on the travelers' satisfaction with their trips (Cai *et al.*, 2019; Kamboj and Gupta, 2020; Law *et al.*, 2018). Furthermore, properly deploying the mobile apps in the tourism industry can help to improve the customer experience (Liebana-Cabanillas *et al.*, 2020).

By increasing the mobile device usage, the tourism industry is on the verge of incorporating new mobile apps in its operations. These smart travel apps are supported by the predictive analytics to provide useful and timely information. Many tools and services are available in the mobile app platforms, such as GooglePlay and AppleStore, which include the hotel selections (Wang *et al.*, 2016), restaurants (Balasubramanian *et al.*, 2015) and airline tickets (Suki and Suki, 2017). Moreover, apps for organizing and planning trips are gaining popularity among the app users (Xiang *et al.*, 2015).

Among the many new features of the smart travel apps, a personalized travel itinerary is useful. This function is included in smart travel apps, such as Visit-A-City, Sygc Travel, Tripit and TripHobo, which require information, such as flights, hotels, restaurants and car rental confirmations, and they automatically create a master itinerary (Wang *et al.*, 2016). These apps also provide extra features, such as maps that allow the users to view the local attractions. Thus, the itineraries are highly personalized and useful. The ever-increasing usage of smart travel apps is due to the enhanced functionalities that are provided by the apps. The apps are convenient as well. Thus, smart technology, such as travel itinerary, is highly sought after and influences the choice of destinations (Azis *et al.*, 2020). As more travelers use smart itineraries, travel agents become less necessary. Hence, this study also seeks to explain the behavior of the users of smart itineraries to provide insights that are useful for the travel agents that are facing these challenges.

The consumers enjoy the benefits of using the travel planning apps as a whole, but there is little information in the literature that focuses on the itinerary as an artifact of the apps. The extant literature focuses mainly on the outcomes, such as the adoption (Meng *et al.*, 2015), satisfaction level (Kim *et al.*, 2020) and functionalities (Wang *et al.*, 2016). The benefits of enjoying the information and the guidance that is provided by an itinerary are important to show the full picture of the smart travel apps. Therefore, the traveler's decision-making process using this type of travel itinerary warrants further investigation. The itinerary that is produced by the mobile apps makes travel more efficient. Therefore, using Venkatesh *et al.*'s (2003) unified theory of acceptance and use of technology (UTAUT) as the theoretical

lens is suitable because they have the power to predict whether the mobile apps are adopted in the tourism industry (Gupta *et al.*, 2018; Jeon *et al.*, 2019).

The UTAUT has been adapted extensively in the domain of mobile technology, but it lacks the ability to explain how the antecedents affect the use of smart apps. However, the personal consumption theory (Holbrook and Hirschman, 1982) can unlock the missing antecedents that are needed to paint the full picture of the itinerary usage by investigating the motivational components of the use of itinerary with the UTAUT theory. The antecedents for the UTAUT variables can further explain the motivation behind using the mobile apps. Thus, the objective of this study is to investigate the effect of both the task-related values, which are the utilitarian values, and the intrinsic motivational values, which are the hedonic values, to influence the usage of the tour itineraries. This study contributes to the existing literature in two ways. First, we detailed the new dimensions with the use of the mobile tourism apps with an integrative theoretical framework. This new integrative model extends the theory of the UTAUT with the experiential consumption theory. Second, the empirical results proposed that the hedonic and utilitarian values are the antecedents for these usage dimensions.

2. Literature review

2.1 Intention of using travel itinerary

One major benefit of using smart travel plan apps is the ability to create a personalized travel itinerary. The travelers can use the travel-related information in the apps to make a travel itinerary that contains information, which is conveniently available for the app's users. This information consolidates travel plans into an itinerary, which specifically includes information about a destination. Bekk *et al.* (2016) concluded that the tourists need concrete information to help them decide on a destination. The apps can use that information, which includes tour destinations, hotel choices, available restaurants and attractions (Alcántara-Pilar *et al.*, 2018). A smart itinerary is a relatively new function of the travel apps, and its acceptance by the travelers has barely been examined. It is deemed as a technological improvement and an innovative travel tool. Hence, the UTAUT was used in this study due to its theoretical basis to predict the behavioral intention of online technologies (Escobar-Rodriguez and Carvajal-Trujillo, 2013; Morosan and DeFranco, 2016). We developed an integrative framework by combining the UTAUT and the personal consumption theories to explain what motivates the travelers to use itineraries that are generated by smart travel apps. Figure 1 shows the theoretical framework of this study.

2.2 Unified theory of acceptance and the use of technology

Shifting travel-related tasks to the mobile phone environment has led to several empirical studies involving why and how the consumers adopt apps for mobile phones. Venkatesh *et al.* (2003) developed the UTAUT from the functional usage perspective. The UTAUT has been used to predict the acceptance of online transactions (San Martín and Herrero, 2012). It has also been used to explain why and how the organizations accept technology (Slade *et al.*, 2015) and to predict what foods and beverages consumers will order (Okumus *et al.*, 2018). Hence, the UTAUT explains the user's intentions to use technology and their subsequent usage behavior, which provides a more comprehensive view of the other adoption models. Venkatesh *et al.* (2012) remodeled and extended the theory in the UTAUT2, which emphasizes the user context by including the price value as an additional predictor. Almost all the smart travel apps are free of charge. Hence, the UTAUT instead of the UTAUT2 was more relevant for our study. Specifically, the UTAUT is based on the system functional perceptions to link attitude and behavior (Hoehle *et al.*, 2012). Many studies that are related

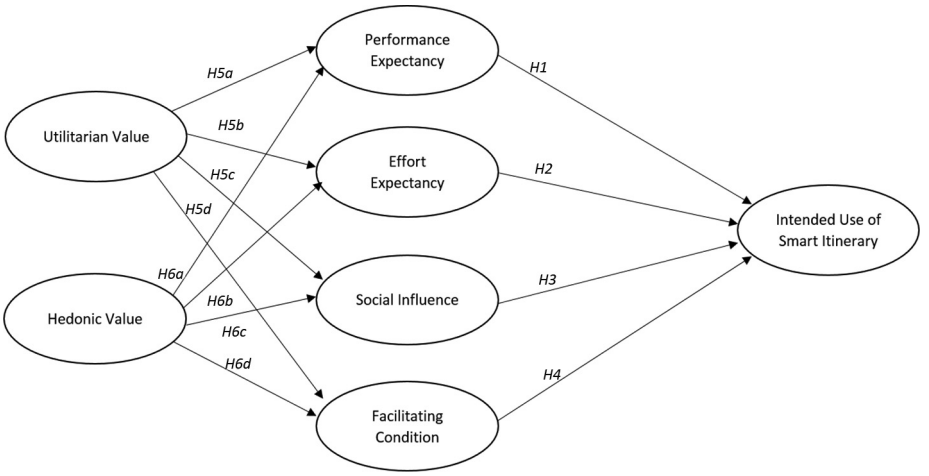

Figure 1.
Conceptual framework

to mobile apps used the UTAUT as the underlying theoretical base, which include airline ticket purchases (Escobar-Rodríguez and Carvajal-Trujillo, 2013), tour mapping apps (Gupta and Dogra, 2017) and mobile payments in hotels (Morosan and DeFranco, 2016). The UTAUT provides a comprehensive model that combines both the functional and adoption perspectives. This study adopted this theory for its strong predictive power from a technology functional perspective. In this study, the UTAUT model was adapted to consist of the performance expectancy (PE), effort expectancy (EE), social influence (SI) and facilitating conditions (FC).

2.2.1 Performance expectancy. Performance expectancy is the degree that the use of technology helps the users achieve their tasks (Venkatesh *et al.*, 2003). Based on this definition, the performance expectancy in this study refers to the tasks that were completed with a personalized trip itinerary. Moreover, smart travel planning apps produce itineraries that help the app users plan their trips. The prior studies confirmed that people use the technology to learn about the tour destinations (Mandić and Garbin Praničević, 2019). Also, the expected benefits of using the apps significantly influenced the adoption of the apps (Fong *et al.*, 2017). The travelers can expect to plan their trips using the itinerary that is generated by a smart travel planning app. Hence, this could motivate the travelers to continue using an app, so we postulated the following hypothesis.

H1. The performance expectancy of the smart travel itinerary function positively influences the intention to use the smart travel itinerary.

2.2.2 Effort expectancy. The users have a low effort expectancy when they believed using the system was effortless. In general, the apps are designed to make using them simple and easy (Venkatesh *et al.*, 2003). The more effort that is needed to use an app, the less likely the users will continue to use it. The ease of learning will help attract the users to a particular app (Kim *et al.*, 2016). Most of the existing studies investigated the effect of the effort expectancy on the intention to use the apps. For example, Hew *et al.* (2015) conducted a study about mobile applications that confirmed a direct linkage between the effort expectancy and adopting the mobile applications. Another study involving m-payments, which was conducted by Teo *et al.* (2015), demonstrated that the effort expectancy has a profound effect on whether the users will continue to use the

apps. Okumus *et al.* (2018) indicated that the effort expectancy of using smartphone apps was not a significant predictor of the intention to use smartphone apps. These inconsistent findings inspired us to investigate the effort expectancy further for smart travel planning apps. Smart travel planning apps generate an itinerary plan automatically after the confirmation information is inputted into the app, destination attractions and day tours. Hence, this study posits the following hypothesis.

H2. Effort expectancy of the smart travel itinerary positively influences the intention to use the smart travel itinerary.

2.2.3 Social influence. Social influence can motivate the users to perform tasks that their peers think should be performed (Zhou *et al.*, 2010). In general, the individuals tend to internalize these peer influences to mold behavior (Ho and Rajandram, 2016). This type of social support provides trust, respect, loyalty, common experiences and shared social value (Ho and Cheng, 2020). Social influence is a key driver for behavioral intention particularly with using new technology in tourism. For instance, Book *et al.* (2018) examined how high levels of support from influential people in a social network could influence the traveler attitudes and behaviors. The extant studies showed that social influence significantly and directly influences the acceptance of the apps (Hsu and Lin, 2016; Yuan *et al.*, 2015). The studies regarding the social influence on the artifacts produced by the app are lacking, so we investigated the following hypothesis.

H3. Social influence of the smart travel itinerary positively influences the intention to use the smart travel itinerary.

2.2.4 Facilitating conditions. The facilitating conditions refer to the users' perceptions of the level of the operational support as well as the level of technological support that are provided by the systems (Venkatesh *et al.*, 2003). The facilitating conditions include the required technology resources, which include the memory resources of the mobile device and the speed of the internet, and the proficiency of the users to operate the app. The facilitating conditions have been confirmed to be important in mobile apps (Alalwan *et al.*, 2016). Therefore, we formulated the following hypothesis.

H4. The facilitating condition of the smart travel itinerary positively influences the intention to use the smart travel itinerary.

2.3 Experiential consumption theory

Holbrook and Hirschman's (1982) experiential consumption theory, which is referred to in our study, proposed that the consumption experience is determined by the consumption values that are derived from the judgments and evaluations from the consumers. The consumers visit a retail shop if they can be emotionally attached and gain utilitarian and hedonic values. The dual characterization of experiential consumption consists of utilitarian and hedonic values. Using a mobile app is motivated by both utilitarian and hedonic values. Utilitarian and hedonic values are validated as the predictors of the continual usage intentions as with mobile hotel booking (Ali *et al.*, 2021; Ozturk *et al.*, 2016). The dual dimensions of the experiential consumption is aligned with our perspective of the use of travel planning apps as an interactive travel tool. Similarly, the motivational factors explain the consumer engagement in the social commerce (Liang and Turban, 2011). In this study, the app users accomplish a task and enjoy the benefits of the itinerary that is generated by the app.

2.3.1 Utilitarian value. Hirschman and Holbrook (1982) defined utilitarian value (UV) as task-centered, rational and goal-oriented, which are needed to accomplish tasks. The value increases after the consumption of a product or service (Ryu *et al.*, 2010). The objective of using a travel itinerary is often goal-oriented, and the users expect the app to perform the required tasks efficiently. These tasks include obtaining travel information, selecting hotels, selecting restaurants and other functions. For example, the expected performance of an airline booking app is achieved when tickets are booked using the app (Suki and Suki, 2017). In this context, the customers viewed utilitarian value as a critical influence regarding buying what they expected to have (Escobar-Rodríguez and Carvajal-Trujillo, 2013). Kesari and Atulkar (2016) explained that the performance of the travel-related products significantly enhances the perception of utilitarian value. More specifically, the customers will normally make a travel decision based on the utilitarian value that is obtained from the performance of the app function (Han *et al.*, 2019), so the following hypotheses are postulated.

H5a. Utilitarian value has a positive effect on the performance expectancy of the smart travel itinerary.

H5b. Utilitarian value has a positive effect on the effort expectancy of the smart travel itinerary.

In the social context, individuals will use a new system after it is accepted by a group of people who are important in some manner (Shaw and Sergueeva, 2019). Interestingly, the app users share and recommend useful apps to friends when they are satisfied with those apps (Ho and Rezaei, 2018). Individuals also consult friends or expert users of the apps. However, the app can only be useful if the recommended app can accomplish the task users' needs. The consumers tweet to share good experiences with products and services, such as restaurants (Liu *et al.*, 2018), hotels (Philander and Zhong, 2016) and tour destinations (Papadimitriou *et al.*, 2018). When a user appreciates the usefulness of an app, that user informs his/her peers of the good features of the app. Hence, knowledge of the usefulness of an app enhances the persuasive power among the users peers (Ray *et al.*, 2019). The utilitarian values increase the social influence on others. The facilitating conditions support the conceptualized knowledge, resources and opportunities to perform a specific behavior (Venkatesh *et al.*, 2003). Based on this theoretical stance, the travelers accomplish a task more smoothly if they are able to access the required resources. Therefore, the app users could successfully use the itinerary in a controlled environment. Internet connectivity and reliability also enhance the utilitarian value. A high level of utilitarian value influences the facilitating conditions that needed to make an effective use of the app functionalities, such as the travel itinerary. Thus, the following hypotheses are proposed.

H5c. Utilitarian value has a positive effect on the social influence of the smart travel itinerary.

H5d. Utilitarian value has a positive effect on the facilitating conditions of the smart travel itinerary.

2.3.2 Hedonic value. Hedonic value (HV) refers to the feeling of fun and enjoyment while shopping (Hirschman and Holbrook, 1982). According to Han and Hyun (2019), hedonic value includes the emotional benefits of joy and excitement while consuming products/services. In the literature, several studies have validated the role of hedonic motivation with app usage (Ho, 2019; Jia *et al.*, 2017; Parker and Wang, 2016). Tamilmani *et al.* (2019) found

that hedonic motivation is the most critical determinant for the behavioral outcome because of the emotional elements and the nature of the predominant cognitive aspect. In this study, the hedonic value associated with the itinerary is driven by intrinsic motivation, which leads to a higher performance expectancy (Gupta *et al.*, 2018). Within the context of the app usage, the time needed and ease of learning how to use the app are the key determinants for the travel apps (Okumus *et al.*, 2018). This is consistent with other mobile apps, which included less effort to book hotel reservations with a smart app, that directly contributed to the app's acceptance (Bilgihan and Bujisic, 2015). As a result, the following hypotheses are postulated.

H6a. Hedonic value has a positive effect on the performance expectancy of the smart travel itinerary.

H6b. Hedonic value has a positive effect on the effort expectancy of the smart travel itinerary.

The consumers are more likely to seek opinions from friends before they make a purchase (Yang, 2012). The influence of friends who have used a particular app can motivate the adoption of the app. The hedonic value encompasses the enjoyment and good feelings that are involved with the consumption of the products that are bought. Similarly, past good experiences with an app often entice users to download the next release or version of the app. The relationship between enjoyment and social influence is supported by existing studies (Higgins, 2006; O'Brien, 2010). When a user has enjoyed using an app, the hedonic value gained motivates the user to share the artifacts that are produced by the app. The fun elements essentially enhance the socialization and peer influence in the social commerce (Anderson *et al.*, 2014). The more hedonic value the travelers shared in the online communities, the higher their influence to promote the apps. The app users expect that the facilitating conditions would be enhanced with the new versions of an app. Therefore, the hedonic value should enhance the sufficiency of the facilitating conditions. Therefore, we developed the following hypotheses.

H6c. Hedonic value has a positive effect on the social influence of the smart travel itinerary.

H6d. Hedonic value has a positive effect on the facilitating conditions of the smart travel itinerary.

3. Methodology

3.1 Scale measurement development

The UTAUT constructs consist of four dimensions that include performance expectancy, effort expectancy, social influence and facilitating conditions, which were adapted from the studies of Okumus *et al.* (2018) and Venkatesh *et al.* (2012). The five items that were used to measure the intention to use were adapted from the studies of Sun and Zhang (2006) and Venkatesh *et al.* (2012). The hedonic and utilitarian values were adapted from the studies of Sarkar (2011) and Chang *et al.* (2014). Hence, the measurement items were adapted from instruments that were used in previous studies (Appendix 1). All the items were operationalized using a five-point Likert scale that ranged from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was written in English, and three academic professors checked its content validity, which involved the words and their meanings. A pilot test was conducted to validate the questionnaire's structure and content. Thirty questionnaires were

distributed to travelers who have used smart apps, and minor changes were added to the scales. Pilot test responses were not used for further analysis.

3.2 Data collection process

The sample consisted of travelers who have used smart travel apps at least one time in the past six months. The questionnaires were collected through a self-administered online questionnaire that was developed using a Google Form, and a link to the survey was developed. The survey was distributed to five travel agents, which also included a request to forward the questionnaire to their customers, from February to April 2019. A total of 500 travelers participated in this study, and 307 completed questionnaires were used for further analysis, giving a response rate of 61.4%. This response rate is in line with the average response rates in hospitality research (Ali *et al.*, 2021). The demographic information for the respondents is shown in Table 1.

4. Results

4.1 Common method variance

Common method variance issues occur when a self-reported questionnaire is used to collect data from the same resource (Podsakoff *et al.*, 2003). Hair, *et al.* (2017) suggested testing Harman's single factor to handle the common method variance. After running the test, the results showed that the model explained 65% of the variance, and 35% of the variance was explained by the first factor, which indicated that the common method variance is not an issue. Smart-PLS 3.0 software was used for the variance-based structural equation modeling (SEM) to justify the research objectives. A two-step procedure was conducted, which included a measurement model and a structural model.

4.2 Measurement model

The measurement model was constructed to assess the convergent validity using factor loadings, average variance extracted (AVE) and composite reliability (CR). Table 2 shows that all the factor loadings (0.551–0.916), AVE (0.620–0.758) and CR (0.888–0.926) exceeded the

Table 1.
Demographic profile

Variable	Category	Frequency	(%)
Gender	Male	162	52.8
	Female	145	47.2
Age	26–35 years old	110	35.8
	36–45 years old	80	26
	46–55 years old	60	19.5
	> 55 years old	57	18.6
Occupation	Students	10	0.03
	Professional private employees	120	39
	Business entrepreneurs	95	30
	Government employees	82	26.7
	Less than MYR 5,000	50	16.3
	MYR 5,001–MYR 10,000	160	52.1
	MYR 10,001–MYR 15,000	80	26.1
	More than MYR 15,000	17	0.55
Frequency smart travel app use	One time	135	44
	Two times	105	34.2
	Three times	40	13
	Four times and above	27	0.88

Constructs	Items	Loadings	CR	AVE
Utilitarian value	UV1	0.668	0.898	0.640
	UV2	0.830	–	–
	UV3	0.851	–	–
	UV4	0.830	–	–
	UV5	0.806	–	–
Hedonic value	HV1	0.842	0.926	0.758
	HV2	0.893	–	–
	HV3	0.860	–	–
	HV4	0.887	–	–
Effort expectancy	EE1	0.845	0.905	0.705
	EE2	0.895	–	–
	EE3	0.737	–	–
	EE4	0.872	–	–
Facilitating condition	FC1	0.796	0.904	0.701
	FC2	0.854	–	–
	FC3	0.876	–	–
	FC4	0.822	–	–
Performance expectancy	PE1	0.845	0.919	0.739
	PE2	0.868	–	–
	PE3	0.879	–	–
	PE4	0.847	–	–
Social influence	SI1	0.816	0.899	0.691
	SI2	0.846	–	–
	SI3	0.860	–	–
	SI4	0.802	–	–
Behavioral intention	BI1	0.551	0.888	0.620
	BI2	0.806	–	–
	BI3	0.883	–	–
	BI4	0.916	–	–
	BI5	0.726	–	–

Table 2.
Construct validity

cutoff value of 0.50 (Hair, *et al.*, 2017). The two approaches were developed to confirm the discriminant validity, which included the Fornell–Larcker's procedure (Fornell and Larcker, 1981) and the heterotrait–monotrait (HTMT) technique (Henseler *et al.*, 2016). As shown in Table 3, the results from the Fornell and Lorcker's assessment indicate that the square root of the AVE between each pair of factors was greater than with the correlation that was estimated between the factors, which demonstrates adequate discriminant validity. Table 4 shows the HTMT ratio of the correlations that shows that all the values of the HTMT were less than the recommended level of 0.90, which further indicates satisfactory discriminant validity.

4.3 Structural model

Bootstrapping with 5,000 subsamples was performed to test the hypotheses. In the structural model analysis, Hair *et al.* (2017) suggested reporting the path coefficient (β), the coefficient of determination (R^2) and the effect size (f^2). Table 5 shows the results of the hypothesis testing for each hypothesis. The relationship between the hedonic and utilitarian values has a significant relationship with performance expectancy, effort expectancy, social influence and facilitating conditions. The relationship between the facilitating conditions and the intentions to use was not significant. Likewise, social influence, effort expectance and performance expectancy have a significant relationship with the intention to use the apps. More importantly, PE, EE, SI and FC explain 54.4% (R^2 = 0.544) of the variance with the intention to use the apps when booking an

itinerary. Meanwhile, HV and UV explain PE (43 %), EE (37 %), SI (51 %) and FC (40 %). Table 3 shows the effect size of all the independent variables on the dependent variables. PE, EE, SI and FC had a small effect (0.2) on the intentions to use the apps. Meanwhile, HV and UV had a medium effect on PE, EE, SI and FC.

5. Discussion and conclusion

5.1 Conclusions

The findings validated that performance expectancy, effort expectancy and social influence significantly led to the intention to use a personalized itinerary that is created with the user

Table 3. Discriminant validity

Constructs	1	2	3	4	5	6	7
Fornell and Larcker	–	–	–	–	–	–	–
1. Intention to use	*0.787*	–	–	–	–	–	–
2. Effort expectancy	0.596	*0.840*	–	–	–	–	–
3. Facilitating condition	0.629	0.645	*0.837*	–	–	–	–
4. Hedonic value	0.614	0.588	0.612	*0.871*	–	–	–
5. Performance expectancy	0.562	0.691	0.556	0.576	*0.860*	–	–
6. Social influence	0.710	0.679	0.804	0.694	0.591	*0.831*	–
7. Utilitarian value	0.690	0.532	0.548	0.689	0.627	0.600	*0.800*

Table 4. Heterotrait–monotrait ratio

Constructs	1	2	3	4	5	6	7
1. Intention to use	–	–	–	–	–	–	–
2. Effort expectancy	0.691	–	–	–	–	–	–
3. Facilitating condition	0.722	0.748	–	–	–	–	–
4. Hedonic value	0.720	0.656	0.691	–	–	–	–
5. Performance expectancy	0.646	0.784	0.632	0.648	–	–	–
6. Social influence	0.820	0.792	0.939	0.790	0.679	–	–
7. Utilitarian value	0.834	0.606	0.614	0.784	0.716	0.677	–

Table 5. Structural model

Hypothesis	Beta	Std. error	*t*-value	*p*-value	R^2	f^2	Decision
H1. PE → BI	0.158	0.063	2.508	0.006	0.544	0.027	Supported
H2. EE → BI	0.109	0.069	1.584	0.057	0.544	0.010	Supported*
H3. SI → BI	0.464	0.068	6.803	0.000	0.544	0.144	Supported
H4. FC → BI	0.097	0.072	1.356	0.088	0.544	0.007	Not supported
H5a. UV → PE	0.438	0.064	6.899	0.000	0.433	0.178	Supported
H5b. UV → EE	0.242	0.071	3.418	0.000	0.377	0.050	Supported
H5c. UV → SI	0.231	0.068	3.402	0.000	0.510	0.057	Supported
H5d. UV → FC	0.240	0.073	3.278	0.001	0.405	0.051	Supported
H6a. HV → PE	0.274	0.070	3.900	0.000	0.433	0.070	Supported
H6b. HV → EE	0.421	0.078	5.406	0.000	0.377	0.149	Supported
H6c. HV → SI	0.535	0.058	9.183	0.000	0.510	0.307	Supported
H6d. HV → FC	0.446	0.077	5.831	0.000	0.405	0.176	Supported

Note: *Significant at level 10%

requirements. The only insignificant results involved the hypothesis regarding the influence of the facilitating conditions on intended behavior. Facilitating conditions in the mobile app environment refer to the internet connectivity, mobile device functionality and other technology features. However, the effect of the facilitating conditions in the smartphone era is not critical because of the reliability of the internet connectivity in most places. The app functions and interfaces have also been further improved, which have also become more user friendly. Most mobile users can learn a new app in a few seconds. Hence, the mobile users would not feel that the facilitating conditions are as important as with other older forms of technologies (Yuan *et al.*, 2015). As the complexity decreases, the adoption of them is likely to increase.

The extant research on the mobile app usage in the tourism industry was predominantly focused on the continual use at the app level (Escobar-Rodríguez and Carvajal-Trujillo, 2013; Morosan and DeFranco, 2016; Alcántara-Pilar *et al.*, 2018). However, the existing studies were intended to examine the functional aspect of the travel app, and they did not investigate the use of an itinerary plan within the travel app. This study investigated the factors that influence the use of the itinerary plans under the theoretical lenses of UTAUT and the experiential consumption. Therefore, the positioning of the consumption values as antecedents of adopting the personalized travel itineraries contributed to the needs of the current mobile technology that is driven by the tourism industry.

5.2 Theoretical implications

This study extended and introduced the experiential consumption values as the predictors of using the itinerary plan based on the two underpinning theories. It validates the UTAUT dimensions as the links between the consumption values and adopting the travel itinerary. This study confirms that the hedonic and utilitarian values are the main contributors that influence the consumers' decision to use an itinerary. These findings are consistent with the other technology adoption studies (Lin and Bhattacherjee, 2010; Ozturk *et al.*, 2016). Specifically, this study is also aligned with studies that motivated the use of mobile phones in the past decade, which highlighted the entertainment and utility in the mobile apps technology as necessary (Jia *et al.*, 2017; Ozturk *et al.*, 2016; Parker and Wang, 2016). Hence, both values contribute to accepting an itinerary plan. When the hedonic and utilitarian values are compared, the hedonic value seems to have a relatively stronger impact than the utilitarian value does. After all, the use of a mobile travel app is oriented to leisure and hedonism Rezeai *et al.*, 2016).

In a nutshell, this study combined the motivation values and the UTAUT theory for the use of an itinerary with the smartphone apps. We validated the importance of the hedonic and utilitarian values to facilitate the adoption of an itinerary that is produced by tourism apps. Hence, this integrative model explains the development of the smart tourism apps. With more travelers opting to use these types of apps, this theoretical framework explicates its adoption for better travel planning.

5.3 Practical contributions

The usefulness of a travel itinerary cannot be underestimated because many travelers depend on itineraries for travel-related decisions. Hence, the travel operators could use the insight that is offered in this study to create a more compelling travel plan for the users. The travel agents must be more customer-centric and strive to provide more personalized services to the customers (Buhalis and Foerste, 2015). In this highly connected world, the customers are overloaded by information from many sources (Ho and Rajadurai, 2020). The consumers demand more, and they search for expert travel agents who can provide personalized services. The travel agents who are experienced can provide these specialized services, which is unlike the more generalized online services. They are experts in their

regions, and they are familiar with the local places and customs. They can often recommend and even provide upgraded services to their customers.

Both the utilitarian and hedonic values, which were derived from the empirical findings from this study, motivate using itinerary plans to make travel easier and more enjoyable. Smart itineraries are critical because the travelers depend on them for travel-related decisions (Escobar-Rodríguez and Carvajal-Trujillo, 2013; Xiang *et al.*, 2015). Planning a trip well in advance could make managing a trip easier. Hence, travel operators could use this research to create a more compelling travel plan for the users. For the utilitarian values, the travel operators should emphasize a variety of practical functionalities. Besides focusing on the destination attractions, the travel itineraries can also include other useful information, such as popular local eateries, transportation routes and local souvenirs and cultural crafts. Therefore, once an app designs an itinerary, it should also provide an opportunity for the travel operators to engage with the customers and provide other required services. In other words, the tourism app users also seek hedonic value (Gupta *et al.*, 2018). In this case, creating a personalized itinerary that is designed solely for a particular user allows them to cultivate a sense of ownership for the artifact that they obtained from using the app. The travel operators can gain personal information and provide more personalized services. The consumers demand more, so they search for expert travel agents who can provide personalized services.

5.4 Future research and limitations

This study has important implications, but it also has a few limitations. The current study emphasized the intended use for an itinerary with the smart travel apps from the functional and motivational perspectives. It did not evaluate the service dimension of using the apps. Therefore, customer service, which includes both before and after using the apps, is important to help the users enjoy the apps. Furthermore, this study was based on data that was collected via a cross-sectional design, which could be limited in terms of the causation effect. Even though the hypotheses were tested using an SEM analysis, a longitudinal study could improve the generalizability of the findings. Other related variables concerning the technology adoption were not examined in our study. These included perceived risk (Chin *et al.*, 2018), familiarity (Hsiao and Chen, 2016) and trust (Choi *et al.*, 2019). The future studies can include these factors to further explain the itinerary function of the travel apps.

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Appendix 1

Construct	Scale	Source
Utilitarian value (UV)	UV1: When I use smart itinerary, other people will perceive me as competent UV2: When I use smart itinerary, I will increase my sense of accomplishment UV3: When I use smart itinerary, I will increase my chances of getting to the right travel destination UV4: When I use smart itinerary, I will be seen as having higher status by my peers UV5: When I use smart itinerary, I will increase my chances of getting the reward or discount	Chang *et al.* (2014)
Hedonic value (HV)	HV1: Using the smart itinerary is truly a joy HV2: While traveling I can feel the excitement provided by the smart itinerary HV3: I enjoy being immersed in using the smart itinerary while traveling HV4: The time spent in using smart itinerary is truly enjoyment to me	Sarkar (2011)
Effort expectancy (EE)	EE1: Learning how to use smart itinerary is easy for me EE2: Interacting with the smart itinerary is clear and easy to understand EE3: The smart itinerary is easy to use EE4: It is easy for me to become skillful at using smart itinerary	Okumus *et al.* (2018), Venkatesh *et al.* (2012)
Facilitating conditions (FC)	FC1: I had no difficulty in finding and installing the smart itinerary FC2: I had no difficulty in customizing the smart itinerary for my use FC3: Overall, smart itinerary has good performance FC4: I have the knowledge necessary to use smart itinerary	Okumus *et al.* (2018), Venkatesh *et al.* (2012)
Performance expectancy (PE)	PE1: The smart itinerary can be useful in managing my trips PE2: The smart itinerary can be valuable to my trips PE3: The smart itinerary can be advantageous in better managing my trips PE4: Using smart itinerary helps me plan my trips more quickly	Okumus *et al.* (2018), Venkatesh *et al.* (2012).
Social influence (SI)	SI1: I want to use the smart itinerary because my friends do so SI2: Using the smart itinerary also reflects my personality to other people SI3: According to people who are important to me, I should use the smart itinerary SI4: People whose opinions that I value prefer that I use smart itinerary	Okumus *et al.* (2018), Venkatesh *et al.* (2012)
Behavioral intention (BI)	BI1: I will continue using smart itinerary BI2. I will always try to use smart itinerary for my next trip BI3. I plan to continue to use smart itinerary frequently BI4: I intend to use smart itinerary in the future BI5: I predict I would use smart itinerary in the future	Sun and Zhang (2006), Venkatesh *et al.* (2012)

Table A1. Measurement items