

# Influence of travel application usage on tourist online shopping appraisal

Sureerut Inmor<sup>1</sup>, Athanasios Podaras<sup>2</sup>, Naruemon Jituea<sup>1</sup>, Sukontip Wongpun<sup>1,\*</sup>

<sup>1</sup> Faculty of Business Administration, Rajamangala University of Technology Thanyaburi, Pathum Thani 12110, Thailand

<sup>2</sup> Faculty of Economics, Technical University of Liberec, 46117 Liberec, Czech Republic

\* **Corresponding author:** Sukontip Wongpun, [sukontip\\_w@rmutt.ac.th](mailto:sukontip_w@rmutt.ac.th)

## CITATION

Inmor S, Podaras A, Jituea N, Wongpun S. (2024). Influence of travel application usage on tourist online shopping appraisal. *Journal of Infrastructure, Policy and Development*. 8(7): 4622.  
<https://doi.org/10.24294/jipd.v8i7.4622>

## ARTICLE INFO

Received: 12 February 2024

Accepted: 12 April 2024

Available online: 29 July 2024

## COPYRIGHT



Copyright © 2024 by author(s).

*Journal of Infrastructure, Policy and Development* is published by EnPress Publisher, LLC. This work is licensed under the Creative Commons Attribution (CC BY) license.

<https://creativecommons.org/licenses/by/4.0/>

**Abstract:** This paper delves into the analysis of the physical flow patterns of users and its subsequent influence on their purchasing behavior. The research methodology encompassed surveying a substantial sample size of 400 users actively engaged with travel applications. The gathered data underwent meticulous analysis employing a combination of descriptive statistics and structural equation modeling techniques. The findings from this study have unveiled noteworthy insights into user behavior within travel applications. It is evident that the inclination to engage with the system has a substantial and positive impact on users' purchase intentions. Moreover, the motivation behind users' system usage has a direct bearing on their purchase intentions, primarily mediated by the enjoyment derived from the overall experience. This research underscores the pivotal role played by travel applications in the contemporary travel industry landscape. As travelers increasingly rely on digital platforms to plan their trips and make informed choices, understanding the intricate dynamics of user engagement, motivation, and subsequent purchasing decisions within these applications is paramount. This deeper comprehension not only sheds light on consumer behavior but also empowers businesses to tailor their offerings and enhance user experiences, thereby solidifying the indispensable position of travel applications in the ever-evolving travel sector.

**Keywords:** tourist; travel application; flow experience; intrinsic motivation; extrinsic motivation

## 1. Introduction

It is crucial to explain the nature of travel mobile applications. One of the most popular travel applications is TripAdvisor. This app provides users with reviews and recommendations for hotels, restaurants, and attractions in various destinations around the world. Users can also book hotels and flights through the app (Alaimo et al., 2020). The paper Ho et al. (2021) explores the underlying theories guiding current app usage to provide a thorough explanation of using itinerary planning. Few academics have looked at the factors influencing tourist's use of the itineraries created by these apps, even though many have investigated the uptake of smart travel applications. By creating an integrative model that clarifies users' intentions to use smart travel itineraries, this study solves the knowledge vacuum in the field of mobile travel apps.

Mobile applications in the travel industry displayed a powerful influence on every aspect of the industry's marketing. These applications can help users plan and book trips, find information about destinations, navigate unfamiliar locations, and share experiences with others. Companies in the travel and tourism industry leverage these apps to establish direct communication channels with their customers. By utilizing mobile apps, businesses can maintain continuous engagement with consumers, from the pre-trip phase all the way through to post-trip interactions. This enhanced

connectivity strengthens the relationship between companies and their customers (Cao et al., 2023).

The study of Kang et al. (2020) investigated how tourists use smartphones for travel-related information. It examined correlations between respondents' demographics and smartphone usage during their recent trips. Using data from visitors to South Carolina's coastal locations, chi-square tests revealed a strong correlation between age and occupation level with smartphone use during travel. Significant variations were also found in tourism information categories searched for on smartphones before and during trips. The study offers theoretical and practical insights into tourists' smartphone information-seeking behavior. The use of travel applications can have a positive influence on tourist online shopping appraisal by providing a more efficient and personalized shopping experience, as well as access to reviews, pricing information, and real-time updates on travel-related information (Lin et al., 2019).

Understanding user behavior in travel applications is crucial for the evolving travel industry landscape by enhancing user experiences and tailoring offerings based on user engagement and motivation is paramount. The research provides insights into the influence of travel application usage on tourist online shopping. It contributes to understanding the dynamics of user engagement, motivation, and purchasing decisions within travel applications. It also contributes to filling the research gap by exploring how authenticity influences perceived value and involvement to enrich the flow of experience in the context of travel applications.

Furthermore, the study identifies innovation and cultural identification as important factors affecting flow experiences, bridging the gap in understanding these dynamics within the travel sector. The study aims to investigate the influence of user motivation on tourist purchase intentions via flow experience. It explores factors like enjoyment, self-efficacy, usefulness, satisfaction, and flow experience in the context of travel application usage. By surveying 400 users actively engaged with travel applications and analysis using descriptive statistics and structural equation modeling techniques.

The remainder of the paper is structured as follows. In section 2, a review of the literature is included, similar previous studies are mentioned, and the differentiation of the present study is explained. In section 3, the research methodology is explained and described to the readers. Section 4 details the research findings, section 5 discusses the results, Finally, section 6 concludes the current achievements respectively.

## **2. Literature review**

### **2.1. Purchase intention through usage travel application**

Travel applications offer several benefits to tourists. Travel applications provide a convenient way for tourists to plan, book, and manage their trips anytime and anywhere through their mobile devices. With travel applications, users can easily search for and book flights, hotels, rental cars, and other travel services directly from their smartphones, saving time and effort (Srinivaasan and Kabia, 2020). These applications offer tools and features that assist travelers in planning their trips. They provide information on destinations, attractions, accommodations, flights, and activities, thus helping users make informed decisions (Goo et al., 2022). Travel

applications provide real-time updates on flight schedules, gate changes, delays, and other important information, ensuring that travelers stay informed and can adjust their plans accordingly (La et al., 2022).

Many travel apps offer personalized recommendations and suggestions based on user's preferences and previous interactions, enhancing the travel experience, and making it more tailored to individual needs (Nitu et al., 2021). Travel applications often include user reviews and ratings for hotels, restaurants, attractions, and other travel-related services, which helps tourists make more informed choices (Tsai et al., 2020). Tourists' online shopping appraisal refers to the evaluation of online shopping experiences by tourists, particularly concerning the purchase of travel-related products and services such as flights, hotels, and activities. The topic of tourist online shopping appraisal has been examined in several papers. Consumer reviews play a significant role in online shopping appraisals as they provide valuable information to potential buyers, influencing their purchasing decisions. Consumers rely on these reviews to gain insights into the quality, features, and overall satisfaction associated with a product or service (Dwidienawati et al., 2020).

The ease of use of an online shopping platform is a critical factor in determining consumer satisfaction and the likelihood of repeat purchases. Positive appraisals of ease of use indicate that the platform is intuitive, efficient, and provides a seamless shopping experience for consumers. Mobile usage in online shopping has become increasingly popular because of the convenience and flexibility it offers to consumers. Positive appraisals of mobile usage in online shopping indicate that consumers find the mobile interface intuitive, responsive, and suitable for their shopping needs, enabling them to browse products, make purchases, and track orders seamlessly (Yousaf et al., 2021). Price comparison is a key aspect of online shopping as it allows consumers to identify the best deals, discounts, and competitive prices for products or services. Positive appraisals of online shopping on price comparison indicate that consumers find the process of comparing prices easy, efficient, and beneficial in terms of cost savings and value for money (Setiawan et al., 2020). Petrović et al. (2023) focuses on how environmental risks and destination appeal influence tourist decisions, examining the role of tourists' psychological profiles through BFI-10, AIO, and VALS 2 techniques alongside a risk-attractiveness scale for hypothetical destinations. Findings from structural path analysis suggest tourists generally avoid risky yet appealing destinations, except for action-oriented individuals (via VALS 2) who are more accepting. Unlike many studies, this work uniquely integrates multiple psychological assessments and imagined destination scenarios to understand tourist behavior towards risky locations. This approach offers insights for developing risk management strategies and enhancing our understanding of tourist behavior in risky environments.

Overall, tourists' online shopping appraisal is an important consideration for businesses in the travel industry. By providing a seamless and efficient shopping experience, offering competitive prices, and incorporating user reviews and ratings, businesses can increase customer satisfaction and loyalty.

## **2.2. Tourist's usage motivation**

The COVID-19 pandemic's exceptional health crisis and economic effects have had a significant negative impact on several industries worldwide, particularly tourism. Toubes et al. (2021) studied the changes in marketing and promotion tactics used in the post-pandemic Spanish tourism industry. The study demonstrates a noticeable increase in dependence on online information sources compared to recommendations from friends and family through qualitative analysis, including 65 experts in marketing, consumer behavior, and tourism. The results show a major shift toward digitization, which will cause physical travel firms to disappear, save for specialized services. Additionally, it is projected that in the medium term, emerging technologies like virtual reality (VR) and artificial intelligence (AI) will play a significant role. Tavitiyaman et al. (2021) examined the impact of travel applications on various aspects of the travel industry, including tourists, businesses, and destinations. Travel applications have revolutionized the way people plan, book, and experience their trips, providing convenience, personalized recommendations, and real-time information. The study highlights that tourist ecosystems and regions cannot only rely on digital advancements in the years to come. They must instead embrace ideas from smart tourism, including sustainability, the circular economy, quality of life, and social value. Furthermore, they must go beyond simply increasing traveler experiences and strengthen the competitiveness of shrewd tourism hotspots.

Zhu et al. (2020) underlined dedication to smartness and sustainability as the ideal framework for promoting the well-being and social contributions of both visitors and local residents, Tourism 4.0 technology should be focused on improving the standard of tourism practices. The S-O-R framework was used to create a research model for this study, and online surveys and web-based experiments were used to evaluate several hypotheses. Smart PLS was utilized to analyze the data. The findings show that social presence and perceived information quality in online reviews have a beneficial impact on trust. Trust acts as a mediator between satisfaction with online reviews and purchase intent. Notably, perceived information quality in favorable internet reviews has a more significant effect on trust, contentment, and purchase intention.

Choi et al. (2019) investigated the variables influencing the continued use of travel-related mobile apps. A conceptual model was developed using information from 22 individual interviews. Functional value, hedonic value, contentment, trust, and other predictors like familiarity, travel objectives, app types, and technical competency are explored in this model, which is based on the expectation confirmation framework. The study's conclusions give a thorough understanding of the continuous use of travel apps. Gajić et al. (2023) examines how travelers' choices shift towards medical destinations in response to media reports on environmental risks. Using a combination of path analysis, moderation, and logistic regression, it uncovers how factors from the Push-Pull-Mooring model influence these decisions. Initially, only 'pull' factors directly impacted the choice of medical destinations, but after moderation, all factors became significant. The analysis also shows a preference for medical over rural or urban destinations post-media exposure. This research contributes to understanding how travelers adapt to environmental uncertainties and highlights the impact of their

choices on the sustainability of medical destinations, offering insights for stakeholders and policymakers.

Branch (2020) investigated the connections between traveler reviews, travel intentions, destination perception, and destination preference. In a survey of 1000 travelers conducted through mobile applications, 892 said that traveler ratings had a favorable impact on their decision to visit Dubai. The report makes management recommendations, urging Dubai's tourism sector and government to develop mobile apps for communication and information sharing between visitors and local authorities. Gajić et al. (2023) investigated how service quality impacts rural tourism in Serbia, especially during the COVID-19 pandemic. It examines the potential for service improvements to boost tourism and predicts a rise in rural overnight stays. Findings indicate that most service aspects, except pricing, can drive rural tourism growth, expecting continued increases in overnight stays. The research stands out for its unique methodology and adds to existing knowledge, suggesting Serbian villages could leverage tourism as a defense against COVID-19.

Overall, these studies suggest that travel applications have a significant impact on tourists' decision-making process, perception of the destination, and the overall travel experience. Research on travel application usage highlights the growing importance of mobile apps in the travel industry, as well as the benefits of using travel apps for trip planning, booking, and on-trip activities. Online evaluations that mention environmental issues have a beneficial impact on their usefulness. Travelers who specifically discuss environmental issues in their reviews are more likely to get positive feedback from other customers (Han et al., 2020; Mariani and Borghi, 2021).

### **2.3. Flow experience**

The concept of flow experience in tourism was introduced described as a mental state in which an individual is fully immersed and absorbed in a task or activity. This state is characterized by feelings of enjoyment and fulfillment, as well as a loss of self-awareness and a sense of time distortion. The concept of the flow experience has been extended to the field of tourism, where it is recognized as a significant element in improving tourist satisfaction and involvement. An alternate viewpoint on the flow experience in tourism emphasizes the influence of social and cultural variables as well as the possibility for flow experiences to support sustainable tourism practices (An et al., 2021). The effect of augmented reality (AR) mobile apps on tourists' impulsive purchasing patterns Using a variety of models, Dwidienawati et al. (2020) discovered that the usefulness, simplicity, and interactivity of mobile augmented reality apps increase user pleasure and enjoyment, resulting in spontaneous purchases. Based on 479 genuine samples, the study offers insightful recommendations for mobile AR app developers, retailers, and tourist marketers looking to better understand customer preferences and encourage impulse spending in the context of travel.

A unique model incorporating multiple mediation and moderation was devised to explore how authenticity influences perceived value and involvement to enrich the flow of experience. Zhang et al. (2019) emphasized the importance of visitors' cognitive perspectives (like perceived value) and behaviors (such as involvement) in connecting authenticity with the sense of flow. Furthermore, the study identified

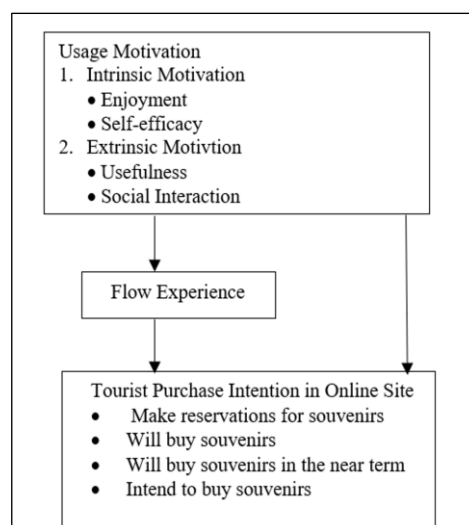
innovation and cultural identification as important factors, suggesting that tourists with higher levels of creativity and cultural identity enjoy enhanced flow experiences

The increase in online social shopping has brought attention to the concept of social commerce. Tuncer (2021) filled the research gap by developing a model using the stimulus-organism-response theory and the affordance lens. Survey data from social commerce platform users were analyzed using PLS-SEM. The results show that social commerce intention is influenced by visibility, meta voicing, and guiding shopping affordances through variables like trust and flow experience. The study offers valuable theoretical and practical insights.

Therefore, in our study, we look at the relationship between a positive desire to use a travel app and the subsequent immersive flow experience that increases user happiness and propensity to buy. For firms in the travel sector, it is critical to comprehend and optimize these related elements. This strategy guarantees a seamless and enjoyable user experience, which ultimately boosts sales and encourages client loyalty.

### 3. Materials and methods

The purpose of the study is to analyze the influence of travel application usage on tourist online shopping appraisal. The unique added value of this paper is the incorporation of the flow experience concept alongside the influence of travel applications on purchase decisions. This is important for a comprehensive understanding of the factors that drive consumer behavior. Flow experience refers to a state of optimal engagement and enjoyment that individuals may experience when using a travel application. By considering the impact of flow experience, we can assess how the seamless and immersive nature of travel applications enhances users' overall experience and subsequently influences their purchasing decisions. This holistic approach helps uncover the underlying psychological and experiential aspects that shape consumer behavior in the digital travel landscape. **Figure 1** presents the conceptual framework for the research in the following way:



**Figure 1.** Research framework.

Hypotheses were set as follows:

Hypothesis 1: Motivation to use the system influences online tourist purchase intentions.

The study (Song et al., 2021) investigates how youthful users of social networking sites for travel use electronic word-of-mouth (eWOM). It demonstrates that elements like argument strength and source reliability have a favorable influence on how beneficial eWOM is regarded to be. Young consumers' assimilation of knowledge and purchase intentions are in turn influenced by perceived usefulness. Another model Dharmesti et al. (2021) makes sense of the data, which shows that young Americans and Australians have favorable perceptions of online shopping, which affects their intentions to make purchases. Social reasons had a detrimental effect on online purchase intentions in the Australian sample. However, escapism and value motives have a beneficial impact on young customers' online purchasing intentions in both Australia and the United States. These customers' extensive familiarity with online shopping also greatly influences their information-seeking activity, which ultimately results in their intent to make purchases online. Therefore, the motivation to use the travel application system influences online traveler's purchase intentions. Consequently, the first hypothesis under investigation can be stated as follows:

H1: Motivation to use the system has a positive influence with tourist purchase intentions.

Hypothesis 2: Motivation for using the system influences the tourist purchase intention through the flow experience.

Using the stimulus-organism response theory, this study Purohit et al. (2023) examines how domestic Indian tourist behave when making "Airbnb experiences" purchases. It demonstrates how views about these events are greatly influenced by motivation, which can be divided into hedonic and utilitarian elements. The effects of perceived authenticity, enjoyment, and service quality on attitudes are supported by both studies. In turn, attitudes influence consumer desire to buy and word-of-mouth, with trend affinity acting as a moderator. The study offers a thorough framework for comprehending passengers' perceptions and actions toward "Airbnb experiences". Another study Cuevas et al. (2021) is to identify the primary driving forces behind consumer social search and to examine the function of flow in this process. It examines the effects of system and content quality (intuitiveness and interactivity) and flow experience (visual appeal, textual information, and timeliness). The study also analyses how the flow experience affects purchase intention and looks at the mediating roles of mental simulation and task ease in this process. According to the findings, textual content, engagement, intuitiveness, and visual appeal all improve users' flow experiences on Instagram. The flow experience is not dramatically impacted by timeliness, though. Further investigation reveals that the flow experience, which increases purchase intention, is mediated by mental simulation and perceived task ease. Therefore, the second hypothesis under investigation has been formulated as follows:

H2: Motivation for using the system has influenced the tourist purchase intention through the flow experience.

The study consisted of individuals who were tourists and had experience with travel applications. The data collection for the questionnaire was conducted using a

combination of automated online and in-person methods. The sample size was estimated using the Cochran formula since the exact population is unknown. The calculation formula uses 95% confidence intervals and has an error value of  $\pm 5\%$ . The result of the calculation was a sample population of 385 people. However, we have set the desired sample size at 400 in order to avoid the mistake. After then, data from tourists was gathered using a simple random sampling method. The surveys employ simple random sampling methods to reduce bias and guarantee that the sample fairly represents the characteristics of the community under investigation. A quantitative method was used to obtain the data from the four parts of the questionnaire, consisting of:

The first part of the questionnaire contains demographic characteristics including gender, age, occupation, level of education, income, and behavior of using social media in terms of tourism.

The second part of the questionnaire is usage motivation including intrinsic motivation (enjoyment/self-efficacy) and extrinsic motivation (usefulness/social interaction). Using a 5-point Likert scale.

The third part is about the flow of experience including forgetting all concerns, forgetting where I am, life close to ideal, easier life conditions, being satisfied with life, and getting important things. Using a 5-point Likert scale.

The fourth part is tourist purchase intention in the online site using a 5-point Likert scale, including:

Make reservations for souvenirs related to tourist attractions.

Will buy souvenirs related to tourist attractions.

Will buy souvenirs related to tourist attractions in the near term.

Intend to buy souvenirs related to tourist attractions.

Remark: Using a 5-point Likert scale, starting from 1 means the lowest and 5 the most.

The questionnaire survey was carried out from October 2022 to December 2022. In order to get the desired results from the questionnaire, it is necessary to do descriptive statistical analysis and structural equation modeling (SEM) on the quantitative data. Mean rating and standard deviation. The average replies to the different choices supplied in the survey questionnaire will be calculated using the mean rating. On the other hand, standard deviation measures the extent to which the data points in a dataset deviate from the mean value. Additionally, the SEM will be used to examine and estimate causal connections between variables in this study model.

#### **4. Results and discussion**

The analysis of the general characteristics of the respondents showed that the majority of them were females, aged between 18–25 years (88%), students (81.5%) who had completed a bachelor's degree (79.8%), with incomes below 15,000 baht (82%), and using Facebook as the primary source of travel-related information (57%).

The ranking of opinions regarding intrinsic motivation for using travel applications, specifically in terms of enjoyment of usage, ranges from highest to lowest as follows: the application is pleasurable to use (4.39), using the application gives pleasure (4.21), and enjoyment of using the application (3.73). The order of



preference for the utilization of personal abilities, as indicated by self-efficacy, is a skill in usage (4.25), followed by the presentation of travel information through the system at a high level (4.12).

The participants' level of opinions regarding extrinsic motivation for using travel applications showed that if the usefulness of using travel applications is considered, most of the respondents had an average overall opinion of 4.09, indicating a high level of agreement. The benefit of using travel applications had an average opinion of 4.17, which was also at a high level, followed by usage that helps to establish relationships with tourists (4.12). Similarly, the use of travel applications for social interaction (4.12) indicates a high level of agreement. The results also showed that the highest level of agreement was regarding the use of travel applications to build interpersonal relationships (4.25), followed by maintaining social relationships (4.18), indicating a high level of agreement.

In general, the level of opinions regarding the motivation for using travel applications was high, with an average rating of 4.02. The highest level of intrinsic motivation was related to personal ability or self-efficacy, which had an average rating of 4.12 at a high level. Moreover, the highest level of extrinsic motivation was found for the usage of travel applications for social interaction, with an average rating of 4.12 at a high level.

The results showed that the level of enjoyment experience when using the travel application (Flow Experience) was highest for the feeling of being captivated while searching for travel information through the system, rated at 4.30. This was followed by the feeling of happiness with life (Overjoyed) and achieving what one wants through the application (Got important things), rated at 4.17 at a high level. The feeling of being satisfied with life (Satisfied life) was also rated high at 4.15.

In terms of tourists' online purchase intentions, the average level of intent was high at 3.99. For purchasing souvenirs related to tourist attractions, Intent1: Make reservations for souvenirs related to tourist attractions (4.11). Intent 2: Will buy souvenirs related to tourist attractions (3.89). Intent 3: Will buy souvenirs related to tourist attractions in the near term (3.97). Intent 4: Intend to buy souvenirs related to tourist attractions (4.01).

#### **4.1. Measurement validity and reliability**

The questionnaire for this research was evaluated for both validity and reliability. The content validity was used to assess the accuracy of the result provided by the measurement scale. To ascertain if the items included in this questionnaire were consistent with the definitions of terms and the study objectives, the opinions of experts on each item were sought before calculating the Index of Consistency (IOC). The result was acceptable, with the IOC ranging between 0.67 and 1.00. After that, questions were adjusted and improved to be more accurate according to the results of the assessment. Cronbach's alpha coefficient was used to assess the reliability of the measurements. Internal quality metrics like Cronbach's alpha and composite dependability were recommended. Internal coherence tests employ Cronbach's alpha and composite reliability standards. Additionally, evaluating internal correctness using composite reliability rather than individual dependability makes more sense; the

usually anticipated reliability is between 0.6 and 0.9, where 0.7 is satisfied. Cronbach’s alpha was determined to be acceptable in this inquiry, which means that they were over the set criterion of 0.7, as shown in **Table 1**.

Three requirements must be verified for convergent validity to be established: indicator factor loadings must be larger than 0.5 in order to be statistically significant; composite reliabilities (CR) must be greater than 0.7; and average variance extracted (AVE) must be greater than 0.5. **Table 1** shows that all factor loadings were higher than 0.50.

CR were greater than 0.70 and found values ranging from 0.885 to 0.923. AVE is similarly greater than 0.5 ranging from 0.600 to 0.749.

**Table 1.** Results of factor loadings, validity, and reliability.

	Item	Factor loading	Cronbach’s Alpha	CR	AVE
Motivation for using travel applications (All Motivation)	Enjoyment	0.812	0.952	0.922	0.749
	Self efficacy	0.889			
	Usefulness	0.906			
	Social Interaction	0.851			
Flow Experience	Captivate	0.760	0.922	0.923	0.600
	Time passes quickly when using a system	0.738			
	Feel so happy that I forget what I am doing	0.751			
	Feel relieved about various issues	0.758			
	Feel happy and content with life	0.799			
	Feel that there are fewer limitations in life	0.762			
	Feel satisfied with life	0.789			
Get what you want from using it	0.837				
Purchase Intention	Make reservations for souvenirs.	0.796	0.885	0.885	0.659
	Will buy souvenirs.	0.849			
	Will buy souvenirs in the near term.	0.813			
	Intend to buy souvenirs.	0.787			

#### **4.2. Influence of user motivation on tourists’ purchase intentions via flow experience**

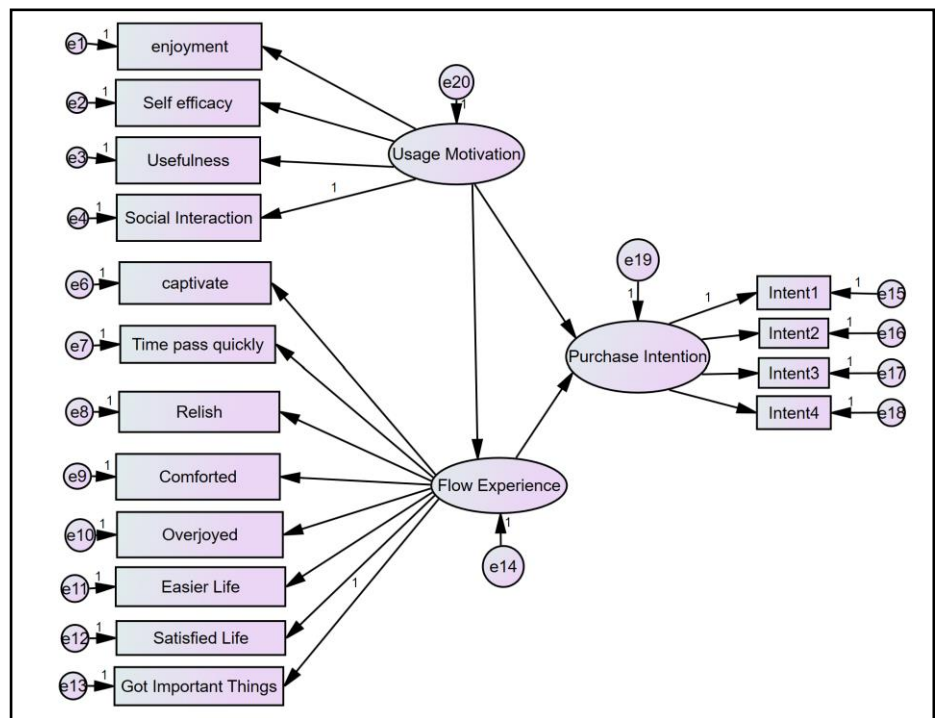
To test all hypothesizes, the researcher employed the computer programs SPSS for Windows and AMOS (Analysis of Moment Structures) to examine the causal relationships that influence the tourist purchase intentions and assess the consistency between the models proposed by the researcher and the empirical data.

This analysis involved evaluating the direct, indirect, and total influence of the variables on the tourist purchase intention. The results of this data analysis are presented in the following order to ensure consistency between the assumptions made and the empirical data collected.

To facilitate understanding of the data analysis results in this research, the researcher created a full causal path analysis model (over-identified model) as illustrated in **Figure 2**. The researcher has also defined the abbreviations used in the analysis to ensure clarity in the presentation of the results.

- Enjoyment (the enjoyment of using the application)
- Self efficacy (used because of personal ability)
- Usefulness (The benefits derived from using travel application)
- Social Interaction (Using travel application for social interaction)
- All Motivation (Motivation for using travel applications)

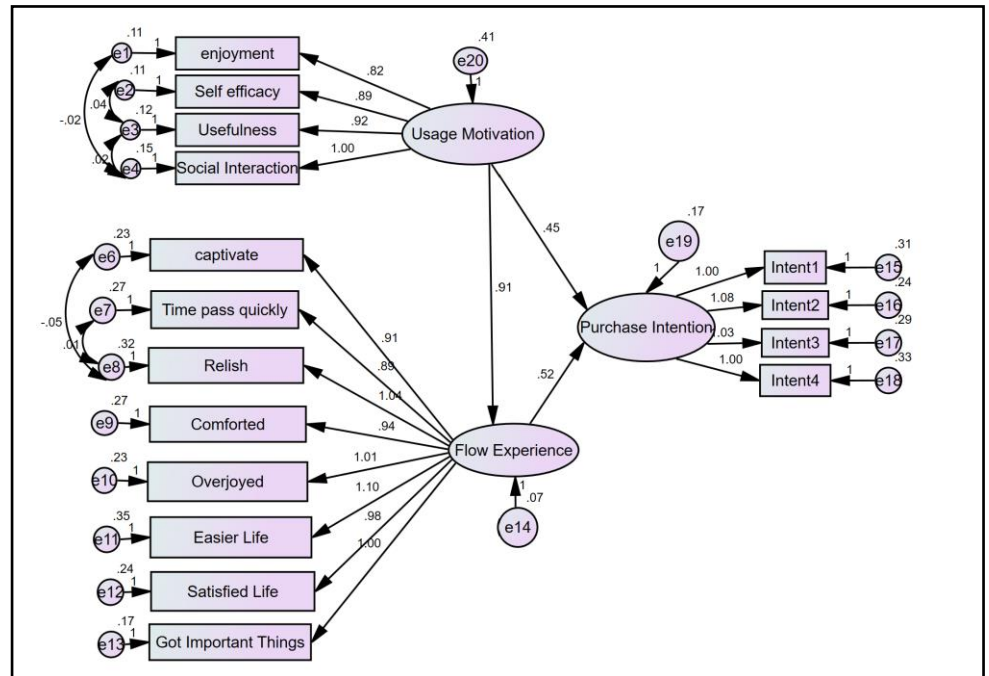
- Captivate (Enjoyment in searching for travel information through the system)
- Time pass quickly (Feel that time passes quickly when using the system to search for travel information)
- Relish (Feel so happy that I forget what I am doing)
- Comforted (Feel relieved about various issues)
- Overjoyed (Feel happy/content with life)
- Easier Life (Feel that there are fewer limitations in life)
- Satisfied Life (Feel satisfied with life)
- Got Important Things (Get what you want from using it)
- Flow Experience (The enjoyable experience of using a travel-related application)
- Intent 1 (Make reservations for souvenirs)
- Intent 2 (Will buy souvenirs)
- Intent 3 (Will buy souvenirs in the near term)
- Intent 4 (Intend to buy souvenirs)
- Purchase\_Intention (The intention to make purchases by tourists through online systems after using a travel-related application)
- e (error margin)



**Figure 2.** The model format of the path analysis of the variables under study.

The researcher developed independent and dependent variables based on theoretical concepts and previous research. A path model was constructed to analyze statistical values and create a fully identified model of relationships (an overidentified model). This model can connect to dependent variables that are either internal variables or latent variables in every structural equation, and it demonstrates the statistical relationship between the variables using standard regression coefficients (Standardized Regression Weights), t-value (critical ratio: C.R.), p-value, and Standard Error (S.E.). **Figure 3** displays the analysis results.

The statistical value is utilized to demonstrate the correlation between variables and estimate the results of the model variables or different coefficient estimates. This includes the standardized regression weight, standard error, critical ratio or *t*-value, and *p*-value. These results are presented in **Table 2**.



**Figure 3.** Model adjustment.

**Table 2.** The results of the estimated correlation coefficients between variables.

Standardized Regression Weights		Estimate	S.E	C.R. (t-value)	P-value	Sig.	
Flow Experience	←	Usage Motivation	0.905	0.050	18.228	***	Yes
Purchase Intention	←	Flow Experience	0.520	0.137	3.808	***	Yes
Purchase Intention	←	Usage Motivation	0.455	0.137	3.318	***	Yes
Usefulness	←	Usage Motivation	0.921	0.039	23.733	***	Yes
Self	←	Usage Motivation	0.890	0.042	21.426	***	Yes
Enjoyment	←	Usage Motivation	0.817	0.042	19.459	***	Yes
Satisfied Life	←	Flow Experience	0.980	0.052	18.896	***	Yes
Easier Life	←	Flow Experience	1.097	0.061	17.947	***	Yes
Overjoyed	←	Flow Experience	1.005	0.052	19.327	***	Yes
Relish	←	Flow Experience	1.037	0.058	17.775	***	Yes
Time pass quickly	←	Flow Experience	0.889	0.052	17.116	***	Yes
captivate	←	Flow Experience	0.912	0.050	18.217	***	Yes
Comforted	←	Flow Experience	0.937	0.053	17.790	***	Yes
Intent2	←	Purchase Intention	1.078	0.058	18.698	***	Yes
Intent3	←	Purchase Intention	1.029	0.058	17.714	***	Yes
Intent4	←	Purchase Intention	0.996	0.058	17.037	***	Yes

Note: There are important statistical implications \**p* < 0.05, \*\**p* < 0.01, \*\*\**p* < 0.001.

The results of the measurement model showed that the data was reliable and valid, characterized a very good overall model fitness, and could be used for route analysis. Values in path analysis are CMIN/df = 2.741, RMSEA = 0.066 with a PCLOSE value of 0.003, GFI = 0.922, NFI = 0.948, CFI = 0.966, and TLI = 0.958, providing adequate evidence regarding that the overall model is a good fit.

The findings of the structural equation analysis are presented in **Figure 3**, which displays the standard regression coefficients of variables using symbols to indicate their level of statistical significance. The data analysis revealed that all pairs of variable relationships had a statistical significance of less than 0.05.

After conducting a full analysis of the causal pathway coefficients, it was observed that there was no path coefficient that could be considered insignificant. This indicates that the relationship between the variables used in the analysis was adequate to some extent. However, initial assessments of the model's fit suggest that the model needs to be refined to ensure completeness and reliability, as indicated by the model adjustment results presented in **Figure 3**.

To analyze intermediate influences using the AMOS program, two steps were taken:

Step 1 involved finding the direct influence between the user motivation and tourist purchase intention variables. Step 2 involved controlling the mediator by incorporating it into the model, and then testing the significance of the indirect influence using Bootstrapping.

The values of the Beta coefficient ( $\beta$ ) in path analysis are revealed by **Table 3**, which represents a positive effect between user motivation and purchase intention ( $\beta = 0.45$ ) at the 0.001 level of significance. As a result, user motivation has a positive effect on tourist purchase intention; therefore, the H1 hypothesis was supported.

For testing, flow experience mediates the relationship between user motivation and tourist purchase intention (H2). The H2 hypothesis represents a positive effect between user motivation and flow experience ( $\beta = 0.91$ ), including flow experience, which had a positive effect on tourist purchase intention ( $\beta = 0.52$ ). As a result, show that the user motivation has a positive effect on traveller's purchase intention through flow experience ( $\beta = 0.47$ ). Therefore, the H2 hypothesis was supported with a full mediator effect, as shown in **Table 3**.

**Table 3.** Hypotheses relationship.

Hypothesis	Model Relationship	$\beta$	<i>P</i>	Results
	Main Effect			
H1	Usage Motivation → Purchase Intention	0.45	0.000**	Support
	Mediating Effect			
H2	Usage Motivation → Flow Experience → Purchase Intention	0.47	0.000**	Support (Full mediator effect)

Significance: \* $p < 0.05$ , \*\* $p < 0.001$ .

## 5. Discussion

The research findings indicate that by ensuring a positive and captivating experience for tourists when using travel applications, it can greatly influence their emotions and attitudes towards travel products. This aligns with the findings of

Srinivaasan and Kabia (2020) and Tavitiyaman et al. (2021). It proves that smooth and positive flow experiences incline more probability of purchasing travel souvenirs (Chang et al., 2023). Due to the nature of travel applications and the ability to connect local companies and communities with tourists directly, without intermediaries like travel agents, the classical tourism industry environment is changing. Tourists are having more authentic experiences and more possibilities to choose from. This study addresses a significant research gap by examining how users' emotions impact their incentive to make purchases in travel apps, including both intrinsic and extrinsic factors. Previous research may have concentrated on a single facet of motivation or completely disregarded the influence of emotions. This study enhances our comprehension of the underlying processes that influence consumer behavior in the context of using travel applications by analyzing both intrinsic and extrinsic motives and their connection with emotional experiences. Hence, it is crucial for travel enterprises and software developers to provide utmost importance to crafting a favorable and captivating user motivation for visitors throughout the process of building travel apps.

By enhancing the flow experience while designing travel applications, travel businesses and application, developers can improve tourists' satisfaction with their travel experiences, increase their intention to purchase travel products, and encourage them to become loyal customers (Cao et al., 2023). In addition, a positive experience while using a travel application can lead to positive word-of-mouth recommendations and social media reviews, which can attract more tourists and drive business growth for travel businesses.

Therefore, it is important for travel businesses and application developers to priorities the creation of a positive and engaging experience for tourists while designing travel applications. This can be achieved by incorporating features such as personalization, ease of use, interactivity, and gamification to enhance tourists' flow experience and ultimately increase their positive emotions and attitudes towards travel products and services.

## **6. Conclusion**

Flow experience, or the deep engagement and enjoyment felt during an activity, significantly impacts tourists' intentions to use travel apps and make purchases. This study highlights the importance of enhancing user motivation by integrating elements like enjoyment, self-efficacy, social interaction, and usefulness into travel apps to improve the flow experience and, consequently, boost purchase intentions among tourists.

Future research could explore the long-term impact of user engagement and motivation on purchasing behavior within travel applications and investigating the role of user reviews and social interactions in influencing tourist online shopping behavior could be a potential area for further study. Understanding user motivations and flow experiences can guide the design of travel applications to enhance user satisfaction and increase purchase intentions. By incorporating features like personalization, ease of use, interactivity, and gamification can improve tourists' flow experience and attitudes towards travel products. Also, by prioritizing the creation of positive and

engaging experiences, travel businesses can attract more tourists, drive business growth, and increase customer loyalty.

Theoretical and practical implications are that findings emphasize the importance of understanding user behavior in travel applications for businesses to enhance user experiences and tailor offerings. Therefore, businesses in the travel sector can benefit from optimizing elements like flow experience to boost sales and encourage client loyalty.

Potential Limitations of the Research are sample size of 400 users may have limitations in representing the entire user population engaged with travel applications. Also, the research focused on specific factors like enjoyment, self-efficacy, and usefulness, potentially overlooking other variables that could influence user behavior within travel applications.

**Author contributions:** Conceptualization, SI and SW; methodology, AP; validation, SI, AP, NJ and SW; formal analysis, SW; investigation, AP; data curation, AP; writing—original draft preparation, SW; writing—review and editing, SI. All authors have read and agreed to the published version of the manuscript.

**Acknowledgments:** This research was supported by Faculty of Business Administrator, Rajamangala University of Technology Thanyaburi and the Faculty of Economics, Technical University of Liberec. The researchers would like to express great appreciation to all parties that provided us with very valuable information.

**Conflict of interest:** The authors declare no conflict of interest.

## References

- Alaimo, C., Kallinikos, J., & Valderrama-Venegas, E. (2020). Platform evolution: A study of tripAdvisor. Paper presented at the Proceedings of the 53rd Hawaii International Conference on System Sciences.
- An, S., Choi, Y., & Lee, C. K. (2021). Virtual travel experience and destination marketing: Effects of sense and information quality on flow and visit intention. *Journal of Destination Marketing Management*, 19, 100492. <https://doi.org/10.1016/j.jdmm.2020.100492>
- Branch, J. (2020). The influence of traveler reviews on mobile applications on travel decision-making to Dubai. *Journal of Theoretical Applied Information Technology*, 98(15).
- Cao, L., Xie, D., & Qu, Y. (2023). A process perspective on experience co-creation: How pre-trip involvement prompts destination loyalty. *Tourism Management*, 96, 104711. <https://doi.org/10.1016/j.tourman.2022.104711>
- Chang, K. C., Cheng, Y. S., Kuo, N. T., et al. (2023). Impacts of Tourists' Shopping Destination Trust on Post-Visit Behaviors: A Loss Aversion Perspective. *International Journal of Hospitality & Tourism Administration*, 1-40. <https://doi.org/10.1080/15256480.2023.2241030>
- Choi, K., Wang, Y., & Sparks, B. J. J. o. T. (2019). Travel app users' continued use intentions: it's a matter of value and trust. *Journal of Travel Tourism Marketing*, 36(1), 131-143. <https://doi.org/10.1080/10548408.2018.1505580>
- Cuevas, L., Lyu, J., & Lim, H. (2021). Flow matters: antecedents and outcomes of flow experience in social search on Instagram. *Journal of Research in Interactive Marketing*, 15(1), 49-67. <https://doi.org/10.1108/JRIM-03-2019-0041>
- Dharmesti, M., Dharmesti, T. R. S., Kuhne, S., & Thaichon, P. J. Y. C. (2021). Understanding online shopping behaviours and purchase intentions amongst millennials. *Young Consumers*, 22(1), 152-167. <https://doi.org/10.1108/YC-12-2018-0922>
- Dwidienawati, D., Tjahjana, D., Abdinagoro, S. B., & Gandasari, D. (2020). Customer review or influencer endorsement: which one influences purchase intention more? *Heliyon*, 6(11). <https://doi.org/10.1016/j.heliyon.2020.e05543>
- Gajić, T., Đoković, F., Blešić, I., et al. (2023). Pandemic Boosts Prospects for Recovery of Rural Tourism in Serbia. *Land*, 12(3), 624. <https://doi.org/10.3390/land12030624>

- Gajić, T., Minasyan, L. A., Petrović, M. D., et al. (2023). Travelers'(in) Resilience to Environmental Risks Emphasized in the Media and Their Redirecting to Medical Destinations: Enhancing Sustainability. *Sustainability*, 15(21), 15297. <https://doi.org/10.3390/su152115297>
- Goo, J., Huang, C. D., Yoo, C. W., & Koo, C. (2022). Smart tourism technologies' ambidexterity: balancing tourist's worries and novelty seeking for travel satisfaction. *Information Systems Frontiers*, 24(6), 2139-2158. <https://doi.org/10.3390/ijerph17186485>
- Han, H., Al-Ansi, A., Chua, B. L., et al. (2020). The post-coronavirus world in the international tourism industry: Application of the theory of planned behavior to safer destination choices in the case of US outbound tourism. *International Journal of Environmental Research Public Health*, 17(18), 6485. <https://doi.org/10.3390/ijerph17186485>
- Ho, R. C., Amin, M., Ryu, K., & Ali, F. (2021). Integrative model for the adoption of tour itineraries from smart travel apps. *Journal of Hospitality Tourism Technology*, 12(2), 372-388. <https://doi.org/10.1108/JHTT-09-2019-0112>
- Kang, S., Jodice, L. W., & Norman, W. C. T. r. r. (2020). How do tourists search for tourism information via smartphone before and during their trip? *Tourism recreation research*, 45(1), 57-68. <https://doi.org/10.1080/02508281.2019.1627076>
- La, J., Bil, C., Heiets, I., & Lau, K. A. (2022). Door-to-door travel planner for improved traveler experience using digital twin concept. Paper presented at the Proceedings of the 33th Congress of the International Council of the Aeronautical Sciences.
- Lin, X., Wang, X., & Hajli, N. (2019). Building e-commerce satisfaction and boosting sales: The role of social commerce trust and its antecedents. *International Journal of Electronic Commerce*, 23(3), 328-363. <https://doi.org/10.1080/10864415.2019.1619907>
- Mariani, M., & Borghi, M. (2021). Are environmental-related online reviews more helpful? A big data analytics approach. *International Journal of Contemporary Hospitality Management*, 33(6), 2065-2090. <https://doi.org/10.1108/IJCHM-06-2020-0548>
- Nitu, P., Coelho, J., & Madiraju, P. J. B. D. M. (2021). Improvising personalized travel recommendation system with recency effects. *Big Data Mining Analytics*, 4(3), 139-154. <https://doi.org/10.26599/BDMA.2020.9020026>
- Petrović, M. D., Milovanović, I., Gajić, T., et al. (2023). The Degree of Environmental Risk and Attractiveness as a Criterion for Visiting a Tourist Destination. *Sustainability*, 15(19), 14215. <https://doi.org/10.3390/su151914215>
- Purohit, S., Arora, R., Nunkoo, R., et al. (2023). Airbnb experiences: Travelers' purchase behavior and word-of-mouth. *Journal of Travel Research*, 62(7), 1569-1587. <https://doi.org/10.1177/00472875221127679>
- Setiawan, R., Rani, K., Cavaliere, L. P. L., et al. (2020). References for Shopping Online Versus in Stores What Do Customers Prefer and How Do Offline Retailers Cope with It? Petra Christian University.
- Song, B. L., Liew, C. Y., Sia, J. Y., & Gopal, K. J. Y. C. (2021). Electronic word-of-mouth in travel social networking sites and young consumers' purchase intentions: an extended information adoption model. *Young Consumers*, 22(4), 521-538. <https://doi.org/10.1108/YC-03-2021-1288>
- Srinivaasan, G., & Kabia, S. K. (2020). Role of Smartphones in Destination Promotion and Its Impact on Travel Experience. *International Journal of Hospitality Tourism Systems*, 13(1).
- Tavitiyaman, P., Qu, H., Tsang, W.-s. L., & Lam, C.-w. R. (2021). The influence of smart tourism applications on perceived destination image and behavioral intention: The moderating role of information search behavior. *Journal of Hospitality Tourism Management*, 46, 476-487. <https://doi.org/10.1016/j.jhtm.2021.02.003>
- Toubes, D. R., Araújo Vila, N., & Fraiz Brea, J. A. (2021). Changes in consumption patterns and tourist promotion after the COVID-19 pandemic. *Journal of Theoretical Applied Electronic Commerce Research*, 16(5), 1332-1352. <https://doi.org/10.3390/jtaer16050075>
- Tsai, C. F., Chen, K., Hu, Y. H., & Chen, W. K. (2020). Improving text summarization of online hotel reviews with review helpfulness and sentiment. *Tourism Management*, 80, 104122. <https://doi.org/10.1016/j.tourman.2020.104122>
- Tuncer, I. (2021). The relationship between IT affordance, flow experience, trust, and social commerce intention: An exploration using the SOR paradigm. *Technology in Society*, 65, 101567. <https://doi.org/10.1016/j.techsoc.2021.101567>
- Yousaf, A., Mishra, A., Taheri, B., et al. (2021). A cross-country analysis of the determinants of customer recommendation intentions for over-the-top (OTT) platforms. *Information & Management*, 58(8), 103543. <https://doi.org/10.1016/j.im.2021.103543>
- Zhang, S. N., Li, Y. Q., Liu, C. H., & Ruan, W. Q. (2019). How does authenticity enhance flow experience through perceived value and involvement: the moderating roles of innovation and cultural identity. *Journal of Travel Tourism Marketing*, 36(6), 710-728. <https://doi.org/10.1080/10548408.2019.1625846>



Zhu, L., Li, H., Wang, F. K., et al. (2020). How online reviews affect purchase intention: a new model based on the stimulus-organism-response (S-O-R) framework. *Aslib Journal of Information Management*, 72(4), 463-488.  
<https://doi.org/10.1108/AJIM-11-2019-0308>