Structural Equation Model of Performance Acceptance of the Online Central Information System Affecting Interest in Buddhist Tourism

Kannikar Khaw-ngern

Mahachulalongkornrajavidyalaya University, Thailand
E-mail: kannikar.kha@mcu.ac.th

Abstract: The online central information system for tourism promotion is critical; therefore, this research and development effort aimed to develop the structural equation model of performance acceptance of the online central information system affecting interest in Buddhist tourism and to verify the results of the structural equation model of performance acceptance of the online central information system affecting interest in Buddhist tourism. The target group testing this online central information system was 424 volunteers who were tourists. The research instruments included a questionnaire, an observation, and an in-depth interview. The quantitative data obtained were analyzed using descriptive statistics and Pearson’s correlation coefficient. The analysis aimed to verify the model with empirical data and examine both direct and indirect effects through the LISREL program. The results of the study are as follows: 1) The development of a structural equation model of the performance acceptance of the online central information system affecting the interest in Buddhist tourism consists of two extraneous variables, namely the design of the online central information system (EN), whose indicators are developed based on the value proposition. There are four indicators, namely essential basic information, information that meets the requirements, information that clearly reflects the identities of the temple and meditation center, and the organization of the structure that is modern. The other variable is the efficacy of online central information system (EX), the indicators of which are developed using the technology acceptance model. There are five indicators, namely ease of use as the online system can be opened from many devices, convenience to use as the online system can be opened at any time, security in use, and provision of clear and useful information for Buddhist tourism. There are two endogenous variables, one is attitude change (TA) with four indicators, namely perceived importance of Buddhist tourism, classification of Buddhist tourism routes that reflect valuable resources of Buddhism, inspiration for Buddhist tourism, and gaining ideas for planning Buddhist tourism. The other endogenous variable is interest in Buddhist tourism (IN), which includes four indicators: interest in using the system to find Buddhist tourist attractions, interest in sharing the online system with friends and acquaintances, interest in temple tourism, and interest in meditation; 2) The structural equation model of performance acceptance of the online central information system affecting interest in Buddhist tourism is developed and fits with the empirical data (Chi-square = 102.78, df = 81, p = .051, GFI = .972, AGFI = .948, RMR = .032). The endogenous variable of interest in Buddhist tourism (IN) accounts for 95.90%, indicating that all variables, i.e., the design of the online central information system (EN), the efficacy of the online central information system (EX), and attitude change (TA), have an effect on interest in Buddhist tourism (IN), with the factor of attitude change acting as a mediator.

Keywords: Buddhist; Tourism; Temple; SEM; TAM; Value proposition; Attitude

1. Introduction

Community-based tourism has an influence on economy growth and can solve poverty problems,[1] which leads to the widespread use of cash and digital money.[2] In the social aspect, community-based tourism can provide more employment opportunities, increase capabilities and skills of workforce in service sector such as chefs, service workers, etc., promote interaction between people and the community, and encourage environmental development that affects quality of life [3] because the more the tourism is promoted, the more opportunities the communities have in participating in the service industry. That can increase self-reliance in the community, [4] motivate modern technology use for online management, provide more job opportunities such as cleaning service, and more electronic payments in the community [5]. It also increases circulation of money due to tourism spending [6] supplies provision of the local people for foods, accommodations, transportation, souvenir, etc. which can promote economic growth according to Sustainable Development Goals (SDGs).[7] [8]
In the past few years, due to the coronavirus pandemic, a number of visitors to Thai temples and Dharma practice centers have significantly declined which can be seen from the fewer number of tourists and Dharma practitioners participating in meditation programs than before the pandemic, and the number of new practitioners also trends to reduce. Therefore, it is necessary to develop creative online central information system gathering information about outstanding Buddhist tourist attractions in the form of an online central information source with consideration of convenience and benefits of tourists in different groups such as meditation practitioners, naturalists, and architecture lovers. Qualitative research shows that tourists are likely to prefer an all-in-one information source of Buddhist tourist attractions that gathers all updated information and can be accessed with ease of use and convenience. Thus, the online central information system is developed based on the concept of Technology Acceptance Model (TAM) of Fred D. Davis [9], which posits that in developing an information system for disseminating information, developers must consider its perceived usefulness (U) and perceived ease of use (E), stating that people will accept and use an invention only if they find it beneficial to themselves which means attitudes affect the decision of an individual to accept and use the invention. Therefore, this creative media for disseminating information about Buddhist tourist attractions is developed in an effective design focusing on convenience, ease of use, and usefulness, as well as enhancing users’ attitudes toward the online system which will lead to their acceptance and decision to use this media.[10] [11]

Recent studies indicate that information on online system enhances positive attitudes towards tourism, attracts audience to search for more information, and helps them make the right choice of destinations.[12] [13] Easy access to the information about identities of tourist attractions can get audience to make their travel decision quicker. [14] According to the concept of technology acceptance model (TAM), which suggests that a person’s behavior is determined by their attitude. We propose that online central information system is one of important mechanisms bringing more visitors to Thai temples and Dharma practice centers [15] if the information and multimedia presented on the online system are based on true information and relating to the current situations.[16] First, qualitative research was conducted through document review and interviews with experts to collect information for online central information system development. The interviews were conducted with experts of computer and communication technology to collect information about digital system, types of software, etc. which was the key mechanism for online system development, experts of digital communication strategies to collect information about online central information system structure and content format, and experts of Dharma practice to collect information about Buddhism and Dharma practice. After getting all required details about knowledge, techniques, technology, and online system structure, the new platform which is output of the qualitative research was designed and a prototype online system was drafted. The prototype online central information system, then, was tested and evaluated by tourists, Dharma practitioners, experts of digital technology, experts of communication strategies, and experts of Buddhism if its performance meets the aims of the research including that the audience gets more details and information about important Buddhist tourist attractions and the activities organized in those places; the audience are interested in visiting the tourist attractions to learn more about them; [17] the temples, Dharma practice centers, and Buddhist tourist attractions become more popular among tourists which makes them visit and stay at the places for practicing Dharma, studying and learning more about Buddhism, and understanding the teachings of venerable monks, as well as studying more about the architecture and the nature, all of which will lead to economic growth, tourism products development such as food, souvenirs, handicrafts, etc., increasing employment which brings more income to the communities [18]. For example, accommodations and restaurants nearby tourist attractions that appear on the online central information system can have more customers and earn more money; [19] [20] Small businesses in the nearby area which provide supplies for Buddhist tourism such as offerings to monks, handicrafts and souvenirs, and traditional medicine can also generate more income. Therefore, If the outcome of the online central information system meets the expectation, Buddhist tourism will attract more visitors to temples and Dharma practice centers which significantly increases interaction between temples and communities.

2. Objectives

1. To develop Structural Equation Model of Performance Acceptance of the Online Central Information System Affecting Interest in Buddhist Tourism.

3. Research methodology

The goal of this research and development was to create the online central information system that would present content about Buddhist tourist attractions in Thailand and thereby increase interest in Buddhist tourism. The process of developing the system began with structuring the content and the system based on comments from tourists and recommendations from various experts, followed by collecting primary data in the designated tourist destinations. A set of knowledge about temples and meditation centers, as well as a set of knowledge to support system development, was created. The following steps consisted of creating the online central information system, testing the system, and finally measuring and evaluating its efficiency and satisfaction using a group of 424 Thai tourists who volunteered to test the system. On Google Form, questionnaires with a 5-Likert scale and open-ended questions with a field for suggestions were used. The research instruments included a questionnaire, an observation, and an in-depth interview. The quantitative data obtained were analyzed using descriptive statistics and Pearson’s correlation coefficient. The analysis aimed to verify the model with empirical data and examine both direct and indirect effects through the LISREL program.

4. Results

The design of the online central information system to promote tourism focused on multimedia content such as images, texts, and audio sound. The system was designed to be customer-centricity with a modern look and the ability to respond thoroughly and relevantly to the requirements of the users. Importantly, the system must be developed efficiently in terms of convenience, ease of use, provision of useful information, impression, and high security of use via online technology. In addition, users can install the program in a short time and quickly share it with individual networks. After the system was developed, it was distributed to Thai tourists who volunteered to test it.

The structural equation model of performance acceptance of the online central information system affecting interest in Buddhist tourism consists of two extraneous variables, namely the design of the online central information system (EN), whose indicators are developed based on the value proposition. There are four indicators, namely essential basic information, information that meets the requirements, information that clearly reflects the identities of the temple and meditation center, and the organization of the structure that is modern. The other variable is the efficacy of online central information system (EX), the indicators of which are developed using the technology acceptance model. There are five indicators, namely ease of use as the online central information system can be opened from many devices, convenience to use as the online system can be opened at any time, security in use, and provision of clear and useful information for Buddhist tourism. There are two endogenous variables, one is attitude change (TA) with four indicators, namely perceived importance of Buddhist tourism, classification of Buddhist tourism routes that reflect valuable resources of Buddhism, inspiration for Buddhist tourism, and gaining ideas for planning Buddhist tourism. The other endogenous variable is interest in Buddhist tourism (IN), which includes four indicators: interest in using the system to find Buddhist tourist attractions, interest in sharing the online system with friends and acquaintances, interest in temple tourism, and interest in meditation.

The analysis of the causal relationship model of the interest in Buddhist tourism showed that the model is in congruence with the empirical data, as evidenced by the statistical values used to test the congruence between the model and the empirical data, which are as follows: Chi-square = 102.78, df = 81, p = 0.051, indicating that the chi-square value is not significantly different from zero; therefore, the null hypothesis is accepted that the causal relationship of interest in Buddhist tourism is congruent with the empirical data and the goodness of fit index (GFI), which is 0.972. The adjusted goodness of fit index (AGFI) is 0.948, which is close to one. The rock mass rating (RMR) is 0.031, which is close to zero. The largest standardized residuals is 3.939, indicating that the model is congruent with the empirical data. After examining the coefficient of determination or R-squared of the latent variable structural equations, it was found that interest in Buddhist tourism (IN) has an R-squared of 0.959, indicating that the endogenous variables within the model, i.e., the design of the online central information system (EN), the efficacy of the online central information system (EX), and attitude change (TA) are able to explain the
variance of interest in Buddhist tourism (IN), which is 95.90%. Attitude change (TA) has an R-squared of 0.767, indicating that the endogenous variables within the model, i.e., the design of the online central information system (EN) and the efficacy of the online central information system (EX) are able to explain the variance in attitude change (TA), which is 76.70%. After examining the direct and indirect effects between each variable in the model, it was discovered that the correlation between the design of the online central information system (EN) and interest in Buddhist tourism (IN) (size of correlation = 0.951) has a direct effect of 0.187 and an indirect effect of 0.345, and total effect of 0.531, with statistical significance at the 0.01 level. These results show that the size of the indirect effect of the correlation between the design of the online central information system (EN) toward interest in Buddhist tourism (IN) is higher than the direct effect through attitude change (TA). The correlation between the efficacy of the online central information system (EX) and interest in Buddhist tourism (IN) (size of correlation = 0.985) has a direct effect of 0.134 and an indirect effect of 0.220, and total effect of 0.353, with statistical significance at the 0.05 level. The size of the indirect effect of the efficacy of the online central information system (EX) toward interest in Buddhist tourism (IN) is higher than the direct effect through attitude change (TA). This indicates that attitude change (TA) acts as a mediator in the causal relationship model of the interest in Buddhist tourism. As a result, the developed model is congruent with the empirical data as shown in the following table and image.

Table 1: Statistical values of the correlation between latent variables and effect analysis for Structural Equation Model of Performance Acceptance of the Online Central Information System Affecting Interest in Buddhist Tourism.

<table>
<thead>
<tr>
<th>Variables</th>
<th>TE</th>
<th>TA</th>
<th>IN</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN</td>
<td>0.512**</td>
<td>-</td>
<td>0.531**</td>
</tr>
<tr>
<td></td>
<td>(0.141)</td>
<td></td>
<td>(0.142)</td>
</tr>
<tr>
<td>EX</td>
<td>0.326*</td>
<td>-</td>
<td>0.353*</td>
</tr>
<tr>
<td></td>
<td>(0.138)</td>
<td></td>
<td>(0.140)</td>
</tr>
<tr>
<td>TA</td>
<td>-</td>
<td>-</td>
<td>0.673*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.298)</td>
</tr>
</tbody>
</table>

Statistics: Chi-square = 102.78, df = 81, p = .051, GFI = .972, AGFI = .948, RMR = .032

Squared Multiple Correlations for Structural Equations

<table>
<thead>
<tr>
<th>Variables</th>
<th>TE</th>
<th>TA</th>
<th>IN</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN</td>
<td>0.966</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>EN</td>
<td>0.900</td>
<td>0.951</td>
<td>1.000</td>
</tr>
<tr>
<td>EX</td>
<td>0.935</td>
<td>0.985</td>
<td>1.189</td>
</tr>
</tbody>
</table>

Correlation matrix between latent variables

<table>
<thead>
<tr>
<th>Latent variables</th>
<th>TA</th>
<th>IN</th>
<th>EN</th>
<th>EX</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN</td>
<td>0.966</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EN</td>
<td>0.900</td>
<td>0.951</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>EX</td>
<td>0.935</td>
<td>0.985</td>
<td>1.189</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Remark: The number in parenthesis is the standard error, **p < .01, *p < .05

TE = Total Effect, IE = Indirect Effect, DE = Direct Effect
5. Discussions

Results of Structural Equation Model of Performance Acceptance of the Online Central Information System Affecting Interest in Buddhist Tourism found that the developed model fit with empirical data (Chi-square = 102.78, df = 81, P-value = .051, RMSEA = .025). Accounting for the variations in interest in Buddhist tourism (IN) was 95.90 percent. It indicated that all variables which are online central information system design (EN), online central information system efficacy (EX), and attitude changing (TA) have shown effect toward Interest in Buddhist Tourism (IN) by having factor of attitude changing as the mediator.

The best starting point is to focus on the problems that represent the requirements of the users of the innovation. The innovation created must be creative, novel, and consider the environment and society [21][22][23]. The problems must be examined using standard indicators relating to the problematic issues, both as a Buddhist tourist destination and as a destination accepted by tourists. Including the problems arising from adopting and utilizing a online central information system for information search, in which the actual problem must be addressed in terms of structure, content and the digital system or template used [24][25], with a focus on the target group of online system users.

The study used two important concepts that affected the development of creative media. One is the technology acceptance model (TAM), the heart of which is ease of use and security from virus attack or interference with those who have capabilities of digital technology [26][27]. Another concept is that the information, which is the content in the form of images, tables, text, and diagrams, must provide the greatest possible benefit to users [28][29], i.e., the online central information system must meet the purpose of the search, be accepted, and be used regularly [30]. Furthermore, users are willing to recommend the online central information system to their friends and acquaintances. They also provide favorable feedback in order to boost online system usage trends. It is evident from the above information that the results of user evaluations on the overall quality of the online system include "ease of use", "convenience", "security" and "usefulness" in numerous tourism-related aspects, which is the essence of this online central information system [31][32].
6. Conclusion

The study aimed at investigating the structural equation model of performance acceptance of the online central information system affecting interest in Buddhist tourism. The model was verified as a practical model to enhance Buddhist tourism. The results of the study revealed that the model of performance acceptance of the online central information system affecting interest in Buddhist tourism consists of two extraneous variables, namely the design of the online central information system (EN). The endogenous variables are firstly attitude change (TA) and secondly interest in Buddhist tourism (IN). The developed model is in congruence with the empirical data, indicating that the design of the online central information system (EN) and the efficacy of the online central information system (EX) have an effect on the interest in Buddhist tourism through attitude change (TA). Furthermore, for model implementation to be successful, two components must be considered simultaneously: 1) The design of the online central information system, whose indicators are developed based on the value proposition. There are four indicators, namely essential basic information, information that meets the requirements, information that clearly reflects the identities of the temple and meditation center, and the organization of the structure that is modern; and 2) The efficacy of the online central information system, the indicators of which are developed using the technology acceptance model. There are five indicators, namely ease of use as the online central information system can be opened from many devices, convenience to use as the online system can be opened at any time, security in use, and provision of clear and useful information for Buddhist tourism. These two components are aligned with the concept of customer-centricity with a modern look and the ability to respond thoroughly and relevantly to the requirements of the users. It is important that the system is developed efficiently to satisfy the users and encourage them to pass it on to friends and acquaintances so that they decide to use it if they are interested in Buddhist tourism.

7. Recommendations

The study of the structural equation model of performance acceptance of the online central information system affecting interest in Buddhist tourism showed that the model is in congruence with the empirical data. Consequently, the policy recommendation indicates that organizations responsible for promoting Buddhist tourism can utilize the aforementioned model as a framework for creating an information technology system to promote Buddhist tourism. This system can be designed with a modern, contextually consistent system structure that prioritizes user requirements. The model obtained from this study, which includes four important components mentioned above, can serve as the guidelines for promoting the trend of Buddhist tourism as a soft power, because Thailand has many exceptional temples and meditation centers. Not only the Buddhist teachings and practices have the power to promote sustainable tourism in the area, but also the art, culture, shady and suitable places, beautiful traditions, etc. If organizations responsible for promoting Buddhist tourism adopt policies that seriously promote and advance this model, it will significantly and positively affect the interest in Buddhist tourism in Thailand.

References


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