Post-Pandemic Digital Tourism Strategy
(Case Study: Borobudur Temple, Indonesia)

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ABSTRACT
The economy of developing country is highly dependent on tourism sector. Indonesia is one of the developing countries in Southeast Asia that is suffering from the impact of Covid-19. This study aimed to analyze the effect of perceived ease of use, perceived usefulness, and social influence on the respondent's intention to enjoy the travel experience using digital technology. This paper takes Borobudur Temple as an example. This research applied quantitative methodology to discover which factors influence the level of tourists' interest in using the tourism digital application guide. The results show that the most effective way to change tourist behavior is to provide convenience and service quality. The results also indicate that the habit in doing online transactions have no impact on tourist eagerness to use the new tourism system. This study provides analysis of online responsiveness to Covid-19 for preparing the post-pandemic digital tourism.

Keywords: *Digital tourism, Post-pandemic tourism, Tourist behavior, Tourism system.*

1. INTRODUCTION

At the beginning of 2020, the world was shocked by the rapidly spreading covid-19 virus. This pandemic that caused by a virus has forced many tourism activities in almost all destinations experiencing a downturn. This due to the government regulation in attempt to avoid crowd to control the spread of Covid-19 and staying at home is also advised.

The tourism industry has severely affected by the travel restrictions and the lockdown policy to control the spread of the virus [1]. Asia and the Pacific saw an 82% decrease in international tourist arrivals in January-October 2020, continued to suffer the weakest results in January- July 2021 with a 95% drop in international arrivals compared to 2019 [2].

The tourism industry is heavily influenced by the internet and information technology [3]. Therefore, the system used in tourism needs improvement due to the Covid-19 pandemic. This aim of this study is to test the factors affecting intention to use digital tourism application, which consists of perceived ease of use, perceived usefulness, and social influence.

2. LITERATURE REVIEW

The tourism sector is one of the sectors that face the greatest impact of this Covid-19. Many tourism destinations, both nature-based attractions and non-nature-based attractions offer open air locations as their main attractiveness. This type of tourism is now seen as the most beneficial alternative during the pandemic due to its outdoor location. Although, the impact of the current situation due to the Pandemic is still can be seen [4].

Borobudur temple is one of the five tourism areas that is appointed as the super-priority tourism destination by the government of Indonesia. This super-priority tourism destination is aiming to attract tourists, increase the number of tourists with longer stays in the area as well as boost the local's products purchase [5]. According to the Ministry of Tourism and Creative Economic Sandiaga Uno, to ensure and maintain the temple condition, the number of visitors is restricted to only 1200 tourists per day [6].

Considering the huge number of visitors, an average of 3000 people per day before the Pandemic, the Borobudur temple complex applies health protocols to achieve a safe tourism destination. This health protocols suggestion is presented on both their website and on

announcement boards within the temple complex. The suggestions include wearing a face mask, frequent hand washing, body temperature check, prohibited to bringing food from outside, as well as frequent location sanitation. Kendar Umi Kulsum [7] implemented policies within tourism destination during the pandemic are as follow:

- At the ticket desk, the queuing is done by practicing a 1meter distance between guests, and only one person is allowed to wait in line.
- Before entering, the officers then will check the guest's body temperature.
- Visitors are obligated to wash their hands in the provided spots which not only located at the entrance but also within the destination itself.
- Tickets purchasing is done online.

To increase tourist interest while maintaining the sustainability of heritage tourism, a tourism strategy is needed, one of which is by developing a digital tourism application.

3. RESEARCH OBJECTS

This research aims to discover factors that influence the tourist's interest in switching to the use of tourism digital applications. The objectives of this research are as follow:

- To determine the relation of convenience and simplicity of digital tourism application on tourist's interest.
- To research the benefit of digital tourism application on the tourist's desire of using a digital application.
- To identify the impact of social media on tourists' interest using the digital tourism application.

3.1. Conceptual Frame

The previous research can be seen in table 1 bellow:

Table 1. Previous research

The Focus of the Study	Basic Theory	Methods	Variable	Ref
Investigating factors that influence the tourist' intention to use the new mobile-based application named Travel-tracking mobile application (TTMA)	Unified Theory of Acceptance and Use of Technology 2 (UTAUT2)	Confirmatory factor analysis (CFA) Structural equation modeling (SEM	Performance expectancy, effort expectancy, facilitating conditions, hedonic motivations, trust, system privacy concerns	[8]
Discovering factors that influence the customer's behaviour in using online travel agency (OTA)	The unified theory of acceptance and use of technology (UTAUT)	Frequency analysis, feasibility and reliability analysis, path analysis	Performance expectation, effort expectation, social influence, facilitating condition	[9]
Effect of Perceived usefulness and perceived ease of use on the customer while using online travel agency (OTA)	Technology Acceptance Model	Non-experimental study using quantitative methods and a random sampling technique	Perceived usefulness, perceived ease of use	[10]
Understanding the decision-making process and predicting the tourists' behavior to increase the tourism promotion, study the intention of Chinese students to travel to Japan.	Theory of Planned Behavior (TPB)	Develop and tests astructural equation model using the extended Theory of Planned Behavior (TPB)	Destination image, attitude, subjective norm, perceived behavioral control, travel constraints, tracel intention	[11]
Evaluating the effect of the tourism destination image, tourist's satisfaction and loyalty on mountains destination in Thanh How province, Vietnam.	Theory of Planned Behavior (TPB)	Multivariate data analysis methods (Cronbach Alpha test, EFA, CFA, SEM)	Natural features, travel resources, infrastructure, government support, price perceived, human factors	[12]

3.2. Hypothesis Design

3.2.1. Perceived Ease of Use (Hypothesis 1-2)

Perceived Ease of Use has become a key factor that influences the attitude and behavior of internet customers [13]. Stated that convenience has become one of the main motivations behind the customer's tendency to do online shopping including access, searching, transaction, and receiving the product they wanted all in instant and easy. According to that consideration, it is hypothesized that convenience perception is also influencing the perceived ease of use [14].

H1. Convenience has a positive effect on the consumer to use digital tourism applications.

Because the internet is a virtual world, online consumers are depending on reviews from other internet users, [15] and word of mouth [16] to predict the offered goods and services. The easiness of how the product quality and service are given can be determined by web influences ease of use and the intention to buy. Therefore, this can be hypothesized that product quality and service perceived by internet users have an impact on the consumers to use digital applications.

H2. Service quality has a direct impact on the consumer's willingness to use the digital tourism application.

3.2.2. Perceived Usefulness (Hypothesis 3-4)

Travel resources are one of the convenient aspects of the variety of products/services that are being offered in the destination. Travel resources can also be seen as a convenience aspect for the tourists in tourism destinations [17]. A factor that describes the destination including the travel resources has a significant impact on the tourist's satisfaction [12].

H3. Travel resources have an impact on tourist satisfaction, which explicitly influences the willingness to use the digital tourism application.

Perceived price is an important element in predicting and understanding the visitors' behavior. Perceived price can be illustrated as "customer's evaluation on the average price of the service compared to the similar service offered by the competitors". This matter focuses on the worries of the customers' whether they will pay more or almost equal with the one offered by the other competitors. Especially when the consumers think if the price makes sense [18].

H4. Perceived price has a significant influence on the relation between quality of the service and tourist satisfaction.

3.2.3. Social Influence (Hypothesis 5-6)

Social influence refers to what extent does a consumer thinks that other people they see as important believe that they have to use a certain technology. NFC mobile payments and mobile applications [19]. Travel-related social media (TSM) users can have and share information about their personal experiences and comments, stating their opinion, giving a review, and sharing about hotel options, airplanes, or restaurants [20]. TSM users assume the reviews or testimonials written by other users about travel-related is reliable. As in most social media platforms, the number of users that are complaining about a certain service can also be seen as something uncontrollable. Meanwhile, they can easily be influenced by reviews or testimonials written by other users [21]. Besides that, there has been a study researching factors that influence the user to continue using mobile tourism [22].

H5. There is a positive relationship between social influence and tourist satisfaction in exchanging information between TSM users that persuade consumers to use digital-based applications.

Habit refers to what extent does a certain individual with his tendency in using a specific technology. This has been proven in the purpose of use of payment NFC mobile payments [19], and the habit of a certain individual in social networking sites [23]. Because the habit is relevant from the consumer's habit in the past, present, and the more the user uses it, therefore the bigger the urge to use it [24].

H6. Habit or consumers' habit has an impact on their wish to use certain digital tourism applications.

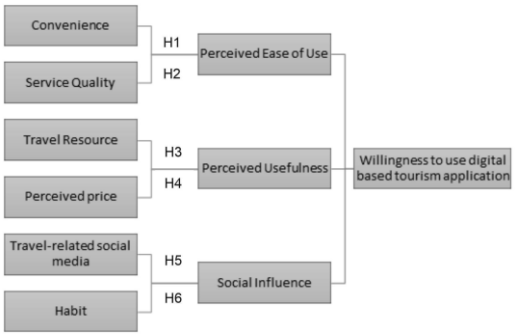

Figure 1 Research model.

Table 2. Research instruments

Variable	Indicator	Research Instruments	Adapted From
Convenience	C1	I feel comfortable using the digital application because it makes it easier in purchasing tickets and there is no need to queue.	[14]
	C2	I am interested using the digital application because it gives me information about tourism destinations faster and easier.	
	C3	I am using a digital application because it gives recommendations on tourism destinations I like; thus it makes it easier in deciding which place to visit.	
Service quality	SQ1	I feel a digital application has a good service if there is a lot of positive reviews from other users.	[15]
	SQ2	Prefer to use an application that has been proven easy to use and has a lot of review.	
	SQ3	I am interested in trying the digital application that is recommended by many of my friends or other users.	
Travel resource	TR1	I feel the application that has many options of tourism destinations or offered useful tourism packages.	[12]
	TR2	I am interested in using a tourism application that can help me choose the right restaurant and place to visit.	
	TR3	I feel the digital application that offers information about the number of visitors and the maximum capacity of the destination I want to visit is very helpful.	
	TR4	I want to use a digital application that knows which destination I prefer automatically, because it is linked with my social media account.	
Perceived Price	PP1	This application can be interesting if it could book a hotel near the chosen destination with a discount.	[18]
	PP2	Want to use the digital tourism application because there is an interesting discount in the provided tourism package.	
	PP3	Will be interested in using this digital tourism application if there was a discount in the destination or even restaurant that is partnered with this application.	
	PP4	I feel that booking an online ticket and being given the smart tourism route can save some fees instead of using a regular tourism agent.	
Travel-related Social Media	TSM1	Reviews and testimonials in social media convinced me to decide on a certain tourism destination.	[21]
	TSM2	The digital application that includes a review from other users will be useful in deciding the destination.	
	TSM3	I am interested in using the digital application so that I can write a review or complaint about that destination I visited.	
Habit	H1	I often do transactions using mobile payments when shopping or even booking a ticket.	[24]
	H2	I am interested in a digital application that offers mobile payments because I am used to doing transactions digitally.	
	H3	I feel safer dan comfortable if I can do an online transaction because I am not used to carrying cash.	

4. RESEARCH METHOD

This research applied quantitative methodology to discover which factors influence the level of tourists' interest in using the tourism digital application guide. Data collection used a survey as a method to gather the information with a google form questionnaire and analyzed using the statistic software SPSS. According to Sekaran and Bougie, the total minimum sample should be ten times or more from the number of the variable used to be studied [25]. Based on this consideration, the size of the minimum sample in this research is more than 60 (6x10) or equal to 60. Respondent is randomly chosen with different occupations during the period of June until July 2021.

5. FINDINGS AND DISCUSSION

The total of respondents in this research is 115 people, the age of these people is between the age group of 18 until 60 years old. The number of male participants reached 62 people or 53.9% and the number of female participants is 53 or equal to 46.1% of the total respondents. From the information gathered, the largest occupation participated in this research is civil servant/Indonesia national armed force/Indonesian police, which is about 43 participants or 37.4%. And followed by entrepreneurs and private employees with 31 and 24 people respectively or 27% and 20.9% from the total participants.

Table 3. Respondents characteristics

Details	Indication	Total	Percentage
Gender	male	62	53.9%
	female	53	46.1%
Age	18-35	58	50.4%
	36-60	57	49.6%
Occupation	civil servant/Indonesia national armed force/Indonesian police	43	37.4%
	Private employees		
	Entrepreneurs		
	Pensions	31	27%
	Stay at home mother	24	20.9%
	students	1	0.9%
		6	5.2%
		10	8.7%
Note: n=115			

Cronbach's Alpha test is used to analyze the uniformity of internal variables. Usually, the value of alpha 0.60 can be accepted, and when the Cronbach's Alpha value is greater than 0.70 it represents a bigger internal consistency. However, if the value is less than 0.35, then the data is seen as less reliable and needs to be removed [26]. From the collected data in this research, the value of Cronbach's Alpha is greater than 0.70, therefore the questionnaires used have a greater reliability (Table 4).

Table 4. Reliability test

Variable	Factor Loading Value	Cronbach's Alpha Percentage
Factor 1: Convenience		0.849
Online ticket booking	0.827	
Tourist attraction information	0.831	
Tourist attraction suggestion	0.707	
Factor 2: Service Quality		0.773
Positive review	0.612	
Proven easy to use	0.635	
Recommended a lot	0.831	

Table 4. Cont.

Variable	Factor Loading Value	Cronbach's Alpha Percentage
Factor 3: Travel Resource		0.923
Plenty tourist attraction/packages offered	0.881	
Tourist attraction recommendation	0.887	
Information over the number of visitors	0.909	
Linked with social media accounts	0.920	
Factor 4: Perceived Price		0.844
Accommodation discount	0.805	
Tourism package discount	0.769	
Restaurant discount	0.797	
Smart route tourism	0.824	
Factor 5: Travel-related Social Media		0.846
Review about tourism attraction	0.844	
Review from other users	0.713	
Able to give review or complaint	0.799	
Factor 6: Habit		0.909
Digital payment to buy online ticket	0.862	
Digital transaction	0.840	
Safety Digital payment	0.905	

Table 5. Average score for model variable

Variable	Mean	Agree	Strongly Agree
C1	4.4174	34.8%	55.7%
C2	4.4696	36.5%	57.4%
C3	4.4957	33.9%	59.1%
SQ1	4.4957	41.7%	54.8%
SQ2	4.3739	48.7%	45.2%
SQ3	4.1826	48.7%	35.7%
TR1	4.0783	44.3%	32.2%
TR2	4.2000	44.3%	38.3%
TR3	4.1826	44.3%	37.4%
TR4	4.1043	44.3%	33.9%
PP1	4.4522	39.1%	53%
PP2	4.2435	46.1%	39.1%
PP3	4.2870	40.9%	45.2%
PP4	4.3913	48.7%	45.2%
TSM1	4.3043	47.8%	41.7%
TSM2	4.4783	38.3%	54.8%
TSM3	4.3478	46.1%	44.3%
H1	4.2261	33.9%	46.1%
H2	4.1304	37.4%	40%
H3	3.9826	33%	34.8%

Out of 115 participants, which is 59.1% of the overall respondents agreed that digital tourism applications that able to know the respondent's preferred tourism attractions and able to give suggestions over a relevant tourism spot will influence the willingness of the respondents to use the digital tourism application (C3). However, 57.4% strongly agreed that the ability of the digital application to provide complete information in every destination is considered appealing to use (C2). Then, around 55.7% of respondents feel that tourism digital applications that can be used to book entrance tickets without queueing will smoothen the traveling experience (C1).

Apart from the three factors mentioned above, participants find that the availability of positive reviews from the other users in digital applications also has an influence on how the participants will grow interest in using tourism digital applications (SQ1, TSM2).

Table 6. Regression analysis

Predictor	r	Model Summary			ANOVA
		R square	*Adjusted R square*	*F*	*Sig.*
Convenience	.719	.516	.508	59.783	.000
Service Quality	.654	.427	.412	27.613	.000
Travel Resource	.384	.147	.116	4.755	.001
Perceived Price	.419	.176	.146	5.870	.000
Travel-related social media	.384	.148	.125	6.408	.000
Habit	.176	.031	.005	1.183	.320

In the first predictor, the score of R = .719, it is known that there is a strong relation between Convenience and willingness to use digital tourism applications. While booking the tickets, the availability of the information of the tourist attraction along with interesting recommendations has a significant relationship with the customers' eagerness to use the digital tourism application.

Furthermore, in the second predictor, the score of R=.654, it is then reported that there is a firm relationship between Service Quality and the preference to use digital tourism applications. The application that has many positive reviews, a lot of tourist attraction choices, and is recommended by relatives and friends has a serious connection with customers' willingness to use the digital application.

Next, predictor third with R score of .384, this can be assumed that a relation between Travel Resources and the willingness to use the digital application has a quite strong correlation. In predictor fourth, with R=419, it showed that the relation between Perceived Price and the eagerness to use the digital application has a significant correlation. Moreover, predictor fifth, R score is .384, described an important connection between Travel-related Social Media and the customers' enthusiasm to use the digital application.

Lastly, predictor sixth, R=.176, stated that the correlation between Habit and the eagerness to use the digital application is recognized as a weak relation. The habit to do an online or digital payment does not influence the customer's enthusiasm to use the digital tourism application.

Table 7. Decision on the hypothesis

Predictor	Results
H1: Convenience has a positive influence on the consumers' willingness to use the digital tourism application	Accepted
H2: Service quality has a direct impact on the customer's eagerness to use the digital tourism application	Accepted
H3: Travel Resources affects the Tourist satisfaction, which indirectly also influence the customer's enthusiasm to use the digital tourism application	Accepted
H4: The perceived price has a significant outcome on the relationship between service quality and tourist satisfaction.	Accepted
H5: There is a positive correlation between social influence and tourist satisfaction within the information exchange among TSM users to influence consumers to try the digital application	Accepted
H6: Habit or the consumers' manner impacting their wishes to use the digital tourism application	Rejected

Additional Features in the Digital Tourism Application

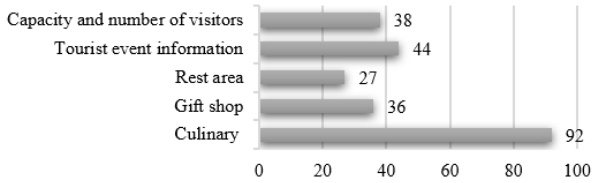

Figure 2 Popular feature within application.

Figure 2 described that the information about the culinary is recorded as the most favored aspect according to the participants. Around 92 or 80% of the respondent prefer to use this feature of culinary information while traveling.

6. CONCLUSION

To summarise, according to the findings collected, we can assume that the result of this research has several aspects influencing the desire of consumers to use the digital-based tourism application. These aspects such as Convenience, Service Quality (the service quality provided by the digital application), Travel Resources (Information about the destination), Perceived Price (benefits offered by the digital application relating to expenses), and Travel-related social media (reviews posted online relating to the destination in the digital application).

However, Habit or manner shown by the users in doing online transactions do not have an impact on their eagerness to use the digital-based tourism application. This is due to the online payment system that has been widely used, meaning that this online payment system has been included in every digital application. Another additional feature that interests the respondents is the provided information over culinary details located around the destination.

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