

How to improve the destination choice in heritage tourism through tourism digitalization: Case of Vietnam

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Abstract—Driven by the proliferation of digital technologies, the tourism industry is undergoing a profound transformation, compelling destinations to adapt and innovate to remain competitive. This study investigated the mediating role of destination image in the relationship between tourism digitalization and destination choice, focusing on heritage tourism in Vietnam. Drawing on a sample of 146 tourists visiting heritage sites in Vietnam, the study employs a quantitative approach using partial least squares structural equation modeling (PLS-SEM) to analyze the data. The findings revealed that tourism digitalization, encompassing accessibility and interactivity, significantly influenced destination image, positively affecting destination choice. Moreover, informativeness and personalization did not impact the destination image. The study confirmed the mediating role of destination image, highlighting its importance as a key mechanism through which digitalization efforts translate into tourist behavior. These findings provided valuable insights for heritage destination managers seeking to leverage digital technologies to enhance their appeal and attract visitors in the digital age.

Keywords— *Tourism digitalization, destination image, destination choice, heritage tourism, Vietnam*

I. INTRODUCTION

Tourism is a rapidly growing industry, contributing significantly to economic development, job creation, and cultural exchange. Digital technologies have revolutionized the tourism landscape in recent years, transforming how destinations are marketed, booked, and experienced. This digitalization has brought about several changes, including increased accessibility of information, personalized travel experiences, and enhanced destination image formation [1]. Heritage tourism, a specific segment of the tourism industry focused on visiting historical, cultural, and archaeological sites, has also been significantly impacted by digitalization. With the increasing availability of online resources, potential tourists can now easily access information about heritage destinations, plan their itineraries, and book travel arrangements. Moreover, social media platforms and online reviews have become important channels for shaping destination image and influencing tourists' decision-making [2, 3].

Despite the growing body of research on tourism digitalization and its impact on destination choice, there is a limited understanding of the mediating role of destination image in this relationship. Existing studies have primarily focused on the direct effects of digitalization on destination choice, neglecting the potential indirect effects through image formation [2]. Furthermore, research on heritage tourism has often overlooked the specific role of digitalization in shaping destination image and influencing tourists' decision-making processes. This research gap presents an opportunity to explore the complex interplay between tourism digitalization,

destination image, and destination choice in the context of heritage tourism. By examining the mediating role of destination image, this study aims to provide a more nuanced understanding of how digital technologies influence tourists' decisions to visit heritage destinations.

The primary objective of this research is to investigate the mediating role of destination image in the impact of tourism digitalization on the destination choice for heritage tourism in Vietnam. Specifically, the study aims to identify the key dimensions of tourism digitalization that influence destination image formation for heritage tourism in Vietnam and examine the mediating effect of destination image on the relationship between tourism digitalization and destination choice for heritage tourism in Vietnam.

II. LITERATURE REVIEW

A. Heritage Tourism Digitalization

Heritage tourism digitalization refers to applying digital technologies to enhance the experience and management of heritage tourism destinations. This characteristic of digitalization includes a wide range of technologies, such as:

- **Accessibility:** Making information about heritage destinations readily available online through websites, mobile apps, and social media platforms [4, 5].
- **Informativeness:** Providing comprehensive and accurate information about the history, culture, and significance of heritage sites [5, 6].
- **Interactivity:** Enabling visitors to engage with heritage content more interactively through virtual tours, augmented reality experiences, and interactive exhibits [5].
- **Personalization:** Tailoring the heritage tourism experience to visitors' needs and interests through personalized recommendations, guided tours, and customized content [7].

Digitalization has significantly transformed how heritage destinations are marketed, booked, and experienced. It has made it easier for potential tourists to access information about heritage sites, plan their itineraries, and book travel arrangements. Moreover, digital technologies have enhanced the visitor experience by providing interactive and personalized content and virtual and augmented reality experiences.

B. Stimulus-Organism-Response (SOR) Framework

The Stimulus-Organism-Response (SOR) framework, developed by Mehrabian and Russell [8], provides a theoretical foundation for understanding the impact of tourism digitalization on destination image and destination choice.

The SOR framework posits that external stimuli (S) evoke certain internal states (O) in individuals, which in turn lead to specific responses (R).

In the context of heritage tourism, the stimuli refer to the digitalization efforts of heritage destinations, such as the availability of online information, the use of social media, and the implementation of interactive technologies. These stimuli are processed by tourists, leading to the formation of a destination image (O). The destination image then influences tourists' decision-making processes, ultimately affecting their destination choice (R). The research model is presented in Fig. 1.

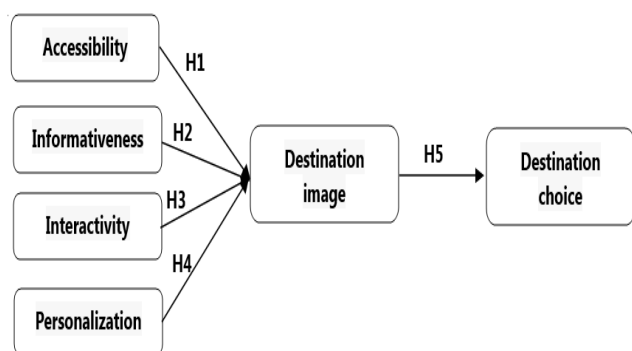


Fig. 1. Research model

C. Research Hypotheses Development

Previous research has shown that the accessibility of tourism information plays a crucial role in shaping tourists' perceptions and attitudes towards a destination [9]. When heritage tourism information is easily accessible through websites, mobile applications, and social media platforms, potential visitors are more likely to develop a positive image of the destination [10]. This is because accessible information reduces uncertainty and enhances the perceived credibility of the destination. In contrast, when information is difficult to access or navigate, tourists may negatively perceive the destination as less attractive or trustworthy [9]. Therefore, H1 is hypothesized that:

H1: Accessibility impacts positively on destination image in heritage tourism

The informativeness of tourism content has been found to significantly influence tourists' perceptions and evaluations of a destination [9]. When heritage tourism information is comprehensive, accurate, and up-to-date, potential visitors are more likely to develop a favorable image of the destination [11]. Informative content helps tourists better understand a heritage site's unique features, history, and cultural significance, enhancing their appreciation and interest in visiting [12]. Moreover, informative content can help to differentiate a heritage destination from competitors, positioning it as a valuable and worthwhile travel experience. Conversely, lacking informative content may lead to a negative or incomplete destination image, reducing the likelihood of visitation [9]. Thus, H2 is proposed that:

H2: Informativeness positively impacts destination image in heritage tourism

Interactivity has been identified as a key factor in shaping tourists' perceptions and attitudes towards a destination [13]. Interactive features such as user reviews, forums, and social

media engagement allow potential visitors to connect with previous visitors and destination representatives, fostering community and trust. This interaction can help to address tourists' concerns, provide personalized recommendations, and create a more vivid and engaging destination image [14]. Moreover, interactivity can enhance a heritage destination's perceived responsiveness and customer orientation, leading to a more positive evaluation. On the other hand, a lack of interactivity may result in a distant or impersonal destination image, reducing the appeal of the heritage site [13]. Therefore, it is hypothesized that:

H3: Interactivity impacts positively on destination image in heritage tourism

Personalization has significantly influenced tourists' perceptions and evaluations of a destination [14]. When heritage tourism offerings are personalized to match tourists' interests, needs, and preferences, potential visitors are more likely to develop a positive and relevant destination image [9]. Personalized recommendations, itineraries, and content can help tourists envision themselves at the heritage destination, creating a more vivid and persuasive image [14]. Moreover, personalization can enhance a heritage destination's perceived value and customer centricity, leading to a more favorable evaluation. In contrast, lacking personalization may result in a generic or irrelevant destination image, reducing the likelihood of visitation [15]. Thus, it is hypothesized that:

H4: Personalization impacts positively on destination image in heritage tourism

Destination image, defined as the sum of beliefs, ideas, and impressions an individual holds about a destination [16, 17], has been consistently identified as a key determinant of destination choice in tourism research. A positive and strong destination image has been found to increase the likelihood of a tourist visiting a particular destination [18]. A favorable destination image enhances the perceived attractiveness, value, and benefits of visiting a heritage site, motivating tourists to choose it over alternative destinations. Moreover, a positive destination image can help to reduce the perceived risks and uncertainties associated with travel, increasing the confidence and intentions of potential visitors [19]. On the other hand, a negative or weak destination image may deter tourists from choosing a heritage destination, as it reduces the perceived desirability and feasibility of visitation. Therefore, it is hypothesized that:

H5: Destination image impacts positively on destination choice in heritage tourism

III. RESEARCH METHOD

The measurement scales for the constructs in this study were adapted from previous research to ensure their validity and reliability. The scale for tourism digitalization dimensions (accessibility, informativeness, interactivity, and personalization), which included four items per construct, was adapted from the works of Azis, *et al.* [20]. Destination image was measured using 5 items adapted from the studies of Manyangara, *et al.* [21]. Destination choice was adopted from three items of destination visit intention from Wang, *et al.* [22]'s research. All items were measured on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

The target population for this study is tourists who have visited or are planning to visit heritage destinations in

Vietnam. A convenience sampling method will be employed to recruit participants through online surveys and social media platforms. The survey was available in Vietnamese and English to reach a wider audience. Data collection will take place over two months. The survey link will also be shared with Vietnam tour operators and travel agencies to reach potential respondents. The sample of 146 respondents will consist of tourists from various backgrounds and demographics. The following table I summarizes the key respondent statistics.

TABLE I. RESPONDENT STATISTICS

Characteristic	Frequency	Percentage
Gender		
Male	79	54.1
Female	67	45.9
Age		
18-24	40	27.4
25-34	32	21.9
35-44	33	22.6
45+	41	28.1
Education		
High school or below	57	39.0
Bachelor's degree	73	50.0
Master's degree or above	16	11.0
Occupation		
Student	51	34.9
White-collar worker	40	27.4
Business owner	41	28.1
Lecturer	10	6.8

IV. RESULT

A. Measurement Model Evaluation

Individual item reliability was evaluated using factor loadings and should be above the recommended threshold of 0.707 [23]. Table II showed that all factor loadings exceeded this threshold, indicating adequate item reliability.

TABLE II. FACTOR LOADINGS, CRONBACH'S ALPHA, COMPOSITE RELIABILITY, AND AVERAGE VARIANCE EXTRACTED

Construct	Item	Outer Loading	CA	CR	AVE
Accessibility (ACC)	ACC1	0.752	0.844	0.860	0.685
	ACC2	0.769			
	ACC3	0.922			
	ACC4	0.858			
Informativeness (INF)	INF1	0.846	0.884	0.901	0.740
	INF2	0.887			
	INF3	0.855			
	INF4	0.852			
Interactivity (INT)	INT1	0.89	0.926	0.929	0.820
	INT2	0.89			
	INT3	0.87			
	INT4	0.969			
Personalization (PER)	PER1	0.9	0.922	0.956	0.810
	PER2	0.913			
	PER3	0.819			
	PER4	0.962			
Destination Image (DEI)	DEI1	0.846	0.859	0.862	0.781
	DEI2	0.898			
	DEI3	0.906			
Destination Choice (DEC)	DEC1	0.838	0.909	0.914	0.789
	DEC2	0.838			
	DEC3	0.903			
	DEC4	0.967			

Convergent validity was evaluated using composite reliability (CR) and average variance extracted (AVE). CR values should be above 0.70, while AVE values should be above 0.50. Table II showed that all constructs exceeded these thresholds, indicating adequate convergent validity.

Discriminant validity assesses the extent to which constructs are distinct from each other. This was evaluated using the Fornell-Larcker criterion and the heterotrait-monotrait ratio (HTMT) [24]. The square root of AVE for each construct should be greater than its correlations with other constructs in the model (Fornell-Larcker criterion). Table III showed that the square root of AVE for each construct exceeded its correlations with other constructs, supporting discriminant validity according to the Fornell-Larcker criterion.

TABLE III. FORNELL-LARCKER CRITERION

	ACC	DEC	DEI	INF	INT	PER
ACC	0.828					
DEC	0.395	0.888				
DEI	0.463	0.653	0.884			
INF	0.143	0.537	0.339	0.860		
INT	0.475	0.593	0.555	0.376	0.906	
PER	0.319	0.549	0.419	0.355	0.455	0.900

B. Structural Model

After establishing the reliability and validity of the measurement model, the structural model was assessed to test the proposed hypotheses.

Multicollinearity among the independent variables was assessed using the variance inflation factor (VIF). All VIF values were below the recommended threshold of 5 (Hair et al., 2017), indicating that multicollinearity was not a concern in the model ($VIF_{ACC} = 1.321$; $VIF_{INF} = 1.232$; $VIF_{INT} = 1.602$; $VIF_{PER} = 1.356$, $VIF_{DEI} = 1.000$).

The hypotheses H1, H3, and H5 were statistically significant ($p < 0.05$), supporting all three hypotheses. Accessibility ($\beta = 0.243$, $p < 0.01$), interactivity ($\beta = 0.324$, $p < 0.01$), all had significant positive effects on destination image. Destination image, in turn, significantly positively affected destination choice ($\beta = 0.653$, $p < 0.001$). Contrary to our hypotheses, informativeness ($\beta = 0.130$, $p > 0.1$), and personalization ($\beta = 0.148$, $p > 0.1$) did not demonstrate a statistically significant impact on destination image; hence, H2 and H5 were rejected. Table IV presents the results of the structural model analysis.

TABLE IV. PATH COEFFICIENTS AND HYPOTHESIS TESTING

Relationship	Beta	Standard Error	t-value	p-value	Result
ACC-> DEI	0.243	0.078	3.097	0.002	Supported
INF-> DEI	0.130	0.090	1.447	0.148	Rejected
INT-> DEI	0.324	0.111	2.907	0.004	Supported
PER-> DEI	0.148	0.103	1.435	0.151	Rejected
DEI-> DEC	0.653	0.074	8.790	0.000	Supported

The coefficient of determination (R^2) for destination image was 0.398, indicating that the four dimensions of tourism digitalization explained 39.8% of the variance in destination image. The R^2 for destination choice was 0.426, indicating that destination image explained 42.6% of the variance in destination choice. The f^2 values for the effects of accessibility, informativeness, interactivity, and personalization on destination image were from 0.023 to 0.109, indicating a small effect. The f^2 value for the effect of destination image on destination choice was 0.743, indicating a large effect. The Q^2 values for destination image and destination choice were above 0 ($Q^2_{DEI} = 0.333$; $Q^2_{DEC} = 0.377$), indicating the model has predictive relevance for both endogenous constructs.

V. CONCLUSION

This study investigated the mediating role of destination image in the relationship between tourism digitalization and destination choice within the context of heritage tourism in Vietnam. The findings strongly support the proposed model, highlighting the significant influence of digitalization efforts on shaping tourists' perceptions and, ultimately, their destination choices.

Our results align with previous research emphasizing the importance of digital technologies in enhancing various aspects of the tourist experience. Consistent with Qi, *et al.* [25], accessibility to information through digital channels emerged as a crucial factor influencing destination image. Tourists are more likely to form positive perceptions of destinations that offer easy access to relevant and up-to-date information, facilitating their travel planning and decision-making processes.

The study also underscores the role of interactivity in shaping destination image, echoing the findings of Pai, *et al.* [13]. Interactive digital platforms facilitating two-way communication between destinations and tourists contribute to a sense of engagement and personalization, leading to more positive perceptions. This interactivity allows tourists to ask questions, share experiences, and receive tailored recommendations, fostering a stronger connection with the destination.

For instance, Ali and Xiaoying [26] found that providing high-quality and detailed information about destinations positively influenced destination image. Similarly, studies emphasizing the role of personalized recommendations in enhancing tourist experiences and fostering positive perceptions (e.g., Tigre Moura, *et al.* [27]) are not supported by the current findings.

The mediating role of destination image in the relationship between tourism digitalization and destination choice is consistent with previous research [28, 29]. Destination image acts as a crucial filter through which tourists evaluate potential destinations. Digitalization efforts, by enhancing accessibility, informativeness, interactivity, and personalization, contribute to the formation of positive destination images, ultimately influencing tourists' choices.

Our findings contribute to the growing body of literature on the transformative impact of digital technologies on the tourism industry, particularly within the context of heritage tourism. The study emphasizes the need for heritage destinations to embrace digitalization as a strategic imperative

for enhancing their appeal and attracting visitors in an increasingly competitive global tourism landscape.

This study provided practical implications for heritage destination management organizations (D.M.O.s). The findings highlight the importance of investing in digital infrastructure and strategies that enhance accessibility to information, provide comprehensive and engaging content, foster interactive experiences, and offer personalized recommendations. This research emphasized the importance of digital marketing in shaping destination image and influencing tourist choices. Heritage D.M.O.s can leverage the findings to develop targeted digital marketing campaigns that highlight their unique attributes and cater to digital-savvy tourists' evolving needs and expectations. Lastly, by encouraging digital technologies for information dissemination, communication, and service delivery, this study indirectly contributes to promoting sustainable tourism development. Digitalization can help manage visitor flows, reduce reliance on printed materials, and enhance the overall efficiency of tourism operations.

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