HNUE JOURNAL OF SCIENCE

Social Sciences 2025, Volume 70, Issue 4, pp. 119-129 This paper is available online at https://hnuejs.edu.vn

DOI: 10.18173/2354-1067.2025-0062

ANALYSIS OF FACTORS INFLUENCING TOURIST ATTRACTIONS TO HA NAM PROVINCE

Duong Thi Thuy*1, Tong Duy Hai¹, Tran Duc Thanh² and Pham Quang Tuan¹

¹Faculty of Geography, VNU University of Science, Hanoi city, Vietnam

²Faculty of Tourism Studies, VNU University of Social Sciences and Humanities,

Hanoi city, Vietnam

*Corresponding author: Duong Thi Thuy, e-mail: duongthithuy@hus.edu.vn

Received September 13, 2025. Revised October 29, 2025. Accepted November 15, 2025.

Abstract. Vietnam's tourism industry is growing rapidly, creating opportunities for localities to strengthen and position their destination brands. Ha Nam, located at the southern gateway of the Red River Delta with rich yet underutilized tourism resources, faces the strategic challenge of enhancing its destination attractiveness. This study identifies and evaluates the key factors influencing Ha Nam's tourism appeal through a model comprising five dimensions: (1) natural and cultural resources, (2) infrastructure and technical facilities, (3) quality of human resources in tourism, (4) destination image and security, and (5) digital transformation in tourism. Data were collected from 620 domestic and international tourists visiting major attractions such as Tam Chuc pagoda, Ba Danh pagoda, Ngu Dong Thi Son, Dia Tang pagoda, Cay Thi pagoda, Phat Quang pagoda, Lanh Giang temple and Quyet Thanh pottery village, using a stratified random sampling method. Analysis with SPSS 26.0 employed cronbach's alpha, exploratory factor analysis, and multiple linear regression. All factor groups achieved cronbach's alpha above 0.9, KMO above 0.8, and bartlett's test sig. = 0.000, confirming high reliability and suitability. The model explained 96.2% of the variance (adjusted $R^2 = 0.962$) in destination attractiveness, with tourism resources ($\beta = 0.304$) and destination image and security ($\beta = 0.295$) identified as the most influential. The findings refine the analytical framework for assessing destination attractiveness and provide a scientific foundation for branding and product strategies.

Keywords: Destination attractiveness, analysis of factors, tourism, Ha Nam province.

1. Introduction

In contemporary contexts, tourism is increasingly viewed not merely as a service industry but as a sustainable economic sector, contributing significantly to GDP, employment, cultural exchange, and community welfare. Within spatial tourism organizations, destination attractiveness is a critical determinant of a place's ability to draw and retain visitors. Enhancing this attractiveness is thus an urgent priority widely emphasized in national and local sustainable tourism strategies [1]. Identifying the factors that impact attractiveness enables policymakers and enterprises to adjust product offerings and align development with market demand. International research models (e.g. multi-attribute, destination image, travel behaviour) confirm that both internal and external factors influence attractiveness, with effects varying among tourist segments [2, 3].

Tourism destination attractiveness is typically assessed by how well a destination meets tourists' needs. According to Buhalis (2000), it results from both tangible factors (e.g., landscape, infrastructure, climate) and intangible ones (e.g., image, emotions, branding) [4]. This concept is central to understanding travel motivations, as destinations that better fulfill tourist expectations are more likely to be selected [5,6]. It has been defined as "the relative importance of individual benefits and the perceived ability of a destination to deliver those benefits" [7]. Crompton (1979), Pike & Ryan (2004), and Chen & Tsai (2007) identify key components of attractiveness such as natural and cultural resources, infrastructure, service quality, safety, and emotional value shaped largely by subjective tourist perceptions [8,9,10]. Beyond inherent attributes, branding, investment, and experience design also play crucial roles [11]. Hu & Ritchie (1993) emphasize a mix of facilities, services, and resources, with tourist perceptions being central to evaluating appeal [12]. Notably, destinations with limited infrastructure may still attract visitors through unique landscapes or culture [13]. Attractiveness differs from competitiveness, focusing on the match between tourist demand and available resources [14]. Attributes are often grouped into three areas: tourism resources, infrastructure and services, and human factors like workforce and community hospitality [15], while destination image remains key to influencing tourist decisions [16].

Tourist perception plays a crucial role in destination attractiveness, as favorable perceptions directly increase a destination's appeal [17]. Research in Texas identified core factors such as social opportunities, natural and cultural assets, amenities, transportation, and entertainment. Another view classifies attractiveness into three dimensions: product quality, performance (e.g., visitor numbers), and future potential, driven by innovation, marketing, and effective management, though high visitation may also result from proximity and accessibility rather than true appeal [18]. In summary, destination attractiveness is influenced by five main factor groups: tourism resources like landscapes, heritage, culture, and cuisine; infrastructure and facilities, including transport, lodging, and services; workforce quality, marked by professionalism and hospitality; image and safety, tied to perceptions of order and security [19]-[22]; and digital transformation, where the use of websites, apps, and e payments increasingly enhances competitiveness.

Before July 1, 2025, Ha Nam was strategically positioned at the southern gateway of the capital region, functioning as a vital transit hub connecting Hanoi with the Red River Delta and the northern mountainous provinces. Following the administrative merger with the former Ninh Binh and Nam Dinh provinces, Ha Nam now forms the northern section of the newly established Ninh Binh province, further strengthening its geographical significance within the national tourism network. Although the province lacks coastal or highland terrain, it is endowed with a rich spiritual heritage and scenic landscapes. Prominent attractions include the Tam Chuc national tourism area, the limestone forest of Kim Bang, home to the endangered delacour's langurs, Ngu Dong Thi Son, Bat Canh Son, and numerous temples such as Lanh Giang, Truc, Long Doi Son, and Phat Quang. Traditional craft villages, including Nha Xa silk, Doi Tam drums, and Quyet Thanh pottery, add to its cultural vibrancy. Together, these elements create favorable conditions for the development of weekend, cultural, spiritual, and ecological tourism models. However, tourism growth remains modest compared to its potential. According to the Ha Nam Department of Culture, Sports and Tourism (2025), the province welcomed over 4.6 million visitors in 2024, mostly domestic day trippers [23]. The short length of stay, low visitor spending, and lack of diversified tourism products have limited the province's competitiveness and sustainability. In this context, studying the factors influencing destination attractiveness becomes essential for guiding Ha Nam toward effective, distinctive, and sustainable tourism development.

2. Content

2.1. Research methods

To achieve both breadth and analytical depth, this study employed a mixed-method approach,

integrating qualitative exploration and quantitative validation. During the qualitative phase, the authors conducted literature analysis, expert consultations, and field observations to identify key variables and refine the measurement framework. In the quantitative phase, a structured questionnaire was designed to empirically test the proposed relationships within the model.

The research model consists of five independent factor groups: (1) natural and cultural resources, (2) infrastructure and technical facilities, (3) quality of human resources in tourism, (4) destination image and security, and (5) digital transformation in tourism. All of these factors are designed to assess their impact on tourists' overall perception of destination attractiveness. Fieldwork was conducted across six administrative areas of Ha Nam province, including Phu Ly city, Duy Tien town, Kim Bang town, Thanh Liem district, Ly Nhan district, and Binh Luc district, representing key tourism types such as spiritual, ecological, cultural, and community-based destinations. Data were collected through seven survey rounds from January 2024 to March 2025, covering both peak and off-peak tourism seasons, including the spring festival and summer vacation periods. Sampling followed a stratified random technique to ensure representativeness. Within each site, respondents were randomly selected by visiting time and visitor group, while business travelers and official delegates were excluded to maintain data consistency. The research sample size was determined using the following formula:

$$n = Z^2 \times \frac{p \times (1-p)}{e^2}$$

Where:

n: The required sample size to be determined.

Z: The Z-value from the standard normal distribution table based on the chosen confidence level. Typically, a 95% confidence level is used, corresponding to Z = 1.96.

p: The estimated proportion of success in the sample size n. Usually, p is chosen as 0.5 to maximize the product p(1-p), ensuring a conservative estimate of the sample size n.

e: The allowable margin of error. In this study, the margin of error is set at the most common level of ± 0.05 .

According to this formula, the calculated sample size is 384 [24]. However, in practice, 720 questionnaires were distributed, 658 returned, and 620 deemed valid, resulting in a 91.4% response rate. To ensure objectivity and representativeness, expert consultations on the recent visitor structure of Ha Nam were also conducted. Consequently, approximately 60% of the valid responses came from Tam Chuc national tourism area, reflecting its dominant role in the province's visitor flow, while the remaining 40% were collected at Dia Tang pagoda, Cay Thi pagoda, Phat Quang pagoda, Lanh Giang temple, Tran Thuong temple, Ngu Dong Thi Son, Bat Canh Son, Ba Kien's house, and other provincial destinations. The distribution structure of the survey questionnaires corresponds to the pattern of tourist arrivals across destinations in Ha Nam province.

All data were analyzed using SPSS 26.0, employing cronbach's alpha to test internal reliability, exploratory factor analysis (EFA) to verify construct validity, and multiple linear regression (MLR) to measure the effects of the independent variables on destination attractiveness.

2.2. Current status of tourism development in Ha Nam province

2.2.1. Tourist arrivals and revenue growth

Tourism in Ha Nam province has expanded rapidly over the past decade, reflecting both its strategic location and the province's growing efforts to integrate into the regional tourism network of northern Vietnam. Between 2011 and 2024, the total number of visitors increased dramatically, with an average annual growth rate of 24.7% for international tourists and 24.1% for domestic travelers.

A remarkable milestone occurred in 2019, when the Tam Chuc national tourism area, one of Vietnam's largest spiritual destinations, was inaugurated. This event triggered a substantial surge in arrivals, reaching approximately 2.9 million visitors, of which 1.67 million visited Tam Chuc alone, representing an increase of 123.4% compared with 2018.

Although the tourism sector was severely affected by the COVID-19 pandemic in 2020, resulting in a 40.4% decline in arrivals, Ha Nam's tourism quickly recovered through flexible policies and product innovation. By 2024, the province recorded 4.73 million visitors, including 147,300 international and 4.58 million domestic tourists, which is 17.4 times higher than in 2011.

Tourism revenue followed a similar upward trajectory, growing at an average rate of 39.2% per year during 2011–2024. The province's tourism income increased from VND 50.5 billion in 2011 to VND 3,657 billion in 2024, a 72-fold rise. Even in 2020, despite pandemic-related disruptions, total revenue still reached VND 1,008 billion, largely sustained by the enduring appeal of Tam Chuc pagoda as a hub for cultural and spiritual tourism [23]. Other destinations such as Phat Quang pagoda, Cay Thi pagoda, Dia Tang Phi Lai Tu pagoda, Long Doi Son pagoda, Lanh Giang temple, Tran Thuong temple, and Ngu Dong Thi Son have also emerged as popular attractions, contributing to the diversification of Ha Nam's tourism landscape.

2.2.2. Tourist characteristics and travel behavior

Survey results reveal a balanced gender distribution (46% male and 54% female) and a clear dominance of the 20–50 age group (83%), representing active travelers with stable incomes and increasing leisure demand. The majority of tourists come from Hanoi and surrounding provinces, reflecting Ha Nam's geographical advantage as a gateway to the capital and the efficiency of its transportation infrastructure for short-distance, weekend travel. In terms of occupation, visitors include civil servants (24%), students (20%), traders (16%), industrial workers (12%), and others (28%), demonstrating the broad socio-economic reach of Ha Nam's tourism appeal.

Regarding travel purpose, the findings show that tourists are primarily motivated by cultural, spiritual and ecological experiences, consistent with the province's tourism development orientation. Early-year festivals attract the highest level of interest (6.35/7 points), followed by motivations related to discovery, learning, and affordability. Experiences related to local cuisine and culture are appreciated at a moderate level but have yet to become key pull factors.

Information about destinations is acquired mainly through word-of-mouth communication (5.83/7 points), indicating the importance of social influence and visitor networks, while social media platforms such as Facebook, TikTok, and YouTube are gaining significance as channels for travel inspiration.

In terms of spending behavior, most visitors (82%) spend under VND 3 million per trip, allocating most of their budget to food, transportation, and entrance tickets. The proportion of long-stay and high-spending tourists remains limited, as 85.8% are day visitors and only 14.2% stay two days or more, usually for a single night. This pattern highlights the need for more diversified and engaging tourism products to extend visitor stays. Phu Ly city remains the primary accommodation hub (73.15% of overnight visitors), with budget guesthouses and homestays dominating, while 4-5 star hotels are seldom selected, revealing constraints in high-end tourism infrastructure.

Ha Nam's tourism landscape is characterized by strong domestic demand, short stay travel, and a focus on cultural-spiritual experiences, which align with the province's geographical and socio-economic context. However, structural challenges remain, including limited product diversification, uneven service quality, and a shortage of high-standard accommodations. Overcoming these barriers is essential to extend visitor stays and increase spending per tourist. Ha Nam's proximity to Hanoi provides both opportunities and constraints: it ensures a steady tourist flow but also demands continuous innovation to avoid becoming merely a transit destination.

2.3. Determinants of destination attractiveness in Ha Nam province

2.3.1. Testing the reliability of the measurement scale

To ensure the reliability of the measurement scales, cronbach's alpha was employed for each construct. The results indicated that all constructs exhibited cronbach's alpha values exceeding 0.7, demonstrating high internal consistency, as presented in Table 1.

Those 1. Results of measurement searce remaining test (crombach surplu)				
Components	Number of observed variables	Cronbach's alpha		
Natural and cultural tourism resources	26	0.86		
Quality of human resources in tourism	10	0.911		
Infrastructure and technical facilities	15	0.930		
Destination image and safety	7	0.710		
Digital transformation in tourism	18	0.888		

Table 1. Results of measurement scale reliability test (cronbach's alpha)

Source: Data processed by the authors from the results of the sociological survey

All measurement scales demonstrated strong internal consistency. The cronbach's alpha coefficients were 0.930 for infrastructure and technical facilities (15 items), 0.911 for quality of human resources in tourism (10 items), and 0.888 for digital transformation in tourism (18 items), indicating high reliability. The natural and cultural tourism resources scale initially yielded an alpha value of 0.860 (26 items). However, several items such as climate, contemporary architecture, and Google Maps/booking presence showed low item total correlations (< 0.3), suggesting weak contribution to the overall construct. Therefore, these items were removed to improve the internal consistency and conceptual coherence of the scale. After refinement, the scale was reduced to 17 items, resulting in an improved cronbach's alpha of 0.899. The destination image and safety scale recorded the lowest reliability coefficient (α = 0.710; 7 items) but still met the acceptable threshold for exploratory research. Overall, all scales exhibited satisfactory reliability, forming a robust foundation for subsequent analyses, including exploratory factor analysis and regression modeling.

2.3.2. Exploratory factor analysis

To validate the measurement scale structure and explore the underlying latent factors influencing the attractiveness of tourist destinations in Ha Nam province, the study conducted exploratory factor analysis using principal axis factoring combined with varimax rotation and kaiser normalization.

Natural and cultural tourism resources

Before conducting the exploratory factor analysis on resource factors, the study confirmed data suitability with KMO = 0.887 (>0.6) and bartlett's test (sig. = 0.000). The EFA extracted four factors with eigenvalues >1, explaining 66.18% of total variance, an acceptable level in social sciences [24]. Based on rotated factor loadings (≥ 0.5) and content relevance, the factors identified are:

- (i). Ecological and wellness tourism resources comprise six variables, corresponding to items one through six in Table 2, among which natural landscapes are identified as the primary attraction factor.
- (ii). Cultural and spiritual tourism resources comprise four variables, corresponding to items seven through ten in Table 2, among which historical sites are identified as the most prominent factor.
- (iii). Agricultural and specialty product resources comprise three variables, corresponding to items eleven through thirteen in this table.
- (iv). Digital transformation applications comprise four variables, corresponding to items fourteen through seventeen in Table 2.

Table 2. Exploratory factor analysis of natural and cultural tourism resources

NI.	Observed variables	Component		Com		
No		1	2	3	4	
1	Beautiful natural landscapes	.853				
2	A diverse and attractive range of ecotourism destinations	.846				
3	A rich variety of terrain types with high aesthetic and recreational value	.792				
4	Relatively diverse and abundant flora and fauna	.725				
5	Biodiversity conservation efforts are relatively effective	.678				
6	Wellness resorts providing quality health care services for tourists	.615				
7	Historical sites are relatively appealing to visitors			.723		
8	Distinctive and rich traditional cultural identity			.695		
9	Attractive traditional festivals			.642		
10	Traditional values are being actively restored and preserved			.589		
11	Agricultural product festivals and fairs are professionally organized and attract strong participation		.789			
12	Local agricultural products are abundant and diverse		.816			
13	Agricultural products meet food safety and hygiene standards		.745			
14	Tourists can easily access information about tourist attractions in Ha Nam via social media platforms				.833	
15	Tourist maps of Ha Nam are easily accessible through various digital means				.676	
16	Power supply systems are consistently reliable and stable				.636	
17	Accommodation and dining facilities offer free internet access.				.598	

Source: Data processed by the authors from the results of the sociological survey

Infrastructure and technical facilities

The exploratory factor analysis identified three distinct factors within the infrastructure and technical facilities component. All factor loadings exceeded 0.5, indicating strong and meaningful contributions of the observed variables to their respective factors. The total variance explained was 68.317%, which is within the acceptable range, confirming that the extracted factors effectively represent the key dimensions of this component.

The kaiser meyer olkin (KMO) measure of sampling adequacy was 0.905 (> 0.6), and bartlett's test of sphericity yielded a statistically significant result (sig. = 0.000), confirming that the dataset was appropriate for factor analysis. To improve the clarity and interpretability of the factor structure, a varimax orthogonal rotation was employed, ensuring that the extracted factors were distinct and exhibited minimal intercorrelation.

- (i). Component 1: Tourism services and amenities consist of seven variables, corresponding to items one through seven in Table 3.
- (ii). Component 2: Transportation infrastructure and accessibility consists of four variables, corresponding to items eight through eleven in this table.
- (iii). Component 3: Tourism environment and sanitation amenities consist of four variables, corresponding to items twelve through fifteen in this table.

Together, these components reflect Ha Nam's infrastructure and services, addressing visitor needs while promoting a convenient and sustainable tourism environment.

Table 3. Exploratory Factor analysis of infrastructure and technical facilities

No		Component			
	Observed variables		2	3	
1	Convenient souvenir shops offering a diverse range of products	.855			
2	Attractive and well-equipped restaurants with a variety of dishes	.807			
3	Diverse and appealing souvenir products	.769			
4	High-quality recreational and entertainment facilities	.758			
5	The province provides books, brochures, and promotional materials at tourist sites	.730			
6	Reasonable ticket prices at tourist attractions	.715			
7	Spacious and safe boat terminals welcoming visitors	.683			
8	High-quality transportation vehicles		.850		
9	Convenient access to tourist destinations		.795		
10	Large, clean, and spacious parking lots with ample capacity		.792		
11	Quality tourism transport services		.738		
12	Public restrooms are available for tourists			.841	
13	Clean and well-equipped restroom facilities			.754	
14	Public trash bins with dual compartments for waste segregation			.733	
15	Water supply systems adequately meet the needs of tourists			.611	

Source: Data processed by the authors from the results of the sociological survey **Quality of human resources in tourism**

Table 4. Exploratory factor analysis quality of human resources in tourism

Na	Observed variables		Component	
No			2	
1	Demonstrates courteous and polite attitudes, consistently respecting tourists	.817		
2	Listens attentively and promptly addresses tourists' complaints	.812		
3	Strictly adheres to the regulations of the tourism area	.799		
4	Friendly, open, willing to assist, and actively engaged in tourism activities	.785		
5	Wears neat and professional attire	.741		
6	Tourists consistently express satisfaction with the workforce	.690		
7	The tourism labor force quantity meets visitor demand	.663		
8	Possesses strong tourism-related knowledge and skills		.830	
9	Maintains high-quality promotion and marketing capabilities		.808	
10	Proficient in foreign languages and digital technologies		.741	

Source: Data processed by the authors from the results of the sociological survey. The results of the EFA revealed a well-defined structure comprising two principal factors extracted through principal component analysis (PCA) with varimax rotation. Both factors exhibited eigenvalues above 1 and factor loadings higher than 0.6, confirming the internal coherence and convergent validity of the measurement scale. The KMO value reached 0.839,

exceeding the recommended threshold of 0.6, and the bartlett's test of sphericity returned a significant result (Sig. = 0.000), indicating strong correlations among variables and confirming that the dataset was suitable for factor analysis. Component 1: Service attitude and tourism workforce comprises seven variables, corresponding to items one through seven in Table 4, while component 2: professional expertise and digital competence includes the remaining three variables. The first component serves as the primary factor influencing tourists' positive experiences, underscoring the importance of workforce quality in enhancing satisfaction and encouraging repeat visitation. Additionally, technological proficiency and intercultural competence are essential elements contributing to destination competitiveness.

Digital transformation in tourism

Table 5. Exploratory factor analysis of the digital transformation in tourism

No	Observed variables	Component			
		1	2	3	4
1	To enhance promotion and brand building	.821			
2	To collect feedback on the destination	.728			
3	To support better tourist research	.716			
4	To facilitate the diversification of tourism products and develop new products tailored to global markets	.712			
5	To deliver ideas to tourists about new tourism products, items, discounts, and offers at the destination	.709			
6	To create a community that influences the level of affinity towards tourism in Ha Nam	.695			
7	Online booking provides greater flexibility		.829		
8	Ability to compare multiple tourism service providers		.777		
9	Online booking offers more attractive pricing		.767		
10	Ability to self-design trips based on personal needs and preferences		.718		
11	Access to diverse information from multiple sources		.715		
12	MA digital tourism game developed to provide immersive experiences of the destination			.823	
13	A global tourism platform to enable smart services and cloud solutions for tourism businesses			.809	
14	Digital storytelling guides using various digital devices			.721	
15	Mobile applications that allow sharing of travel experiences with others				.548
16	Systems enabling destinations to monitor tourist flows				.695
17	Mobile electronic guides and maps				.685
18	Navigation systems displaying locations of tourist attractions, combined with descriptive content of the destination				.667

Source: Data processed by the authors from the results of the sociological survey. The EFA results (KMO = 0.864; bartlett's test sig. = 0.000) confirm the data's suitability for factor extraction. Using principal component analysis with varimax rotation, four key factors representing digital transformation in Ha Nam tourism were identified.

(i). Component 1: from factor 1 to factor 6 in Table 5.

- (ii). Component 2: from factor 7 to factor 11 in this table.
- (iii). Component 3: from factor 12 to factor 14 in this table.
- (iv). Component 4: from factor 15 to factor 18 in this table.

These four factors illustrate how digital transformation shapes tourist behavior, experience, management efficiency, and branding in Ha Nam's tourism sector.

2.4. Identifying the factors influencing destination attractiveness in tourism

The study developed a multiple linear regression model with five independent variables: Natural and cultural tourism resources, infrastructure and technical facilities, quality of human resources in tourism, destination image and security, and digital transformation in tourism. The dependent variable was overall destination attractiveness, measured on a 7-point likert scale. The results indicate that the model is statistically significant (sig. < 0.001), with all five factors exerting a positive and significant influence on destination attractiveness.

Table 6. Linear regression results of factors influencing the destination attractiveness of Ha Nam province

Factor Groups	b	β	t	sig
Quality of human resources in tourism	.204	.261	14.136	.000
Infrastructure and technical facilities	.234	276	11.605	.000
Destination image and security	.180	.295	13.810	.000
Natural and cultural tourism resources	.184	.304	17.103	.000
Digital transformation in tourism	.205	.195	12.705	.000

Source: Data processed by the authors from the results of the sociological survey

The multiple linear regression analysis produced a high explanatory power, with an adjusted R² of 0.962, indicating that the independent variables collectively explain approximately 96% of the variance in the dependent construct. The relatively high adjusted R² reflects the strong theoretical linkage among variables rather than multicollinearity, as confirmed by acceptable VIF and tolerance values. To ensure the model's validity, diagnostic tests were conducted, showing that the variance inflation factor (VIF) values ranged between 1.214 and 4.527, all well below the critical threshold of 10, while tolerance values exceeded 0.23, confirming the absence of multicollinearity.

The regression results show that natural and cultural tourism resources ($\beta = 0.304$) and destination image and security ($\beta = 0.295$) are the two most influential factors. This aligns with previous studies on the critical role of resources and a positive image in shaping tourists' perceptions. As Ha Nam is an emerging destination, strategic investment in resource development, landscape enhancement, and cultural identity, paired with effective destination branding, is particularly essential. The infrastructure and technical facilities factor ($\beta = 0.276$) and quality of human resources in tourism ($\beta = 0.261$) also play foundational roles, highlighting that transport systems, accommodation services, and a professional labor force are key enablers of visitor satisfaction. Notably, digital transformation in tourism ($\beta = 0.195$), though having a relatively lower impact, remains statistically significant. This reflects the growing importance of smart tourism driven by digital technologies and ecosystem integration.

3. Conclusions

The regression results indicate that tourism resources and destination image and security are the two most influential factors shaping Ha Nam's tourism attractiveness. Meanwhile, digital transformation in tourism plays a positive but supporting role, functioning primarily as a tool to enhance communication and facilitate travel decision-making rather than serving as a dominant

driver. In the long term, investing in digital infrastructure and content development will enable Ha Nam to shift from passive promotion toward smart and interactive tourism, thereby improving visitor experience and strengthening local tourism competitiveness. However, persistent issues such as sanitation, signage, and parking management, if left unaddressed, could directly undermine tourist satisfaction and revisit intention.

Based on these findings, several policy recommendations are proposed to promote sustainable tourism development in Ha Nam. First, the province should continue to advance its brand image as "Ha Nam – A cultural, spiritual, and friendly destination of the Red River Delta", enhance destination branding through digital platforms and social media, and foster interprovincial tourism cooperation. Second, it is crucial to preserve, restore, and promote Ha Nam's distinctive cultural and spiritual heritage at major visitor sites by improving signage, landscaping, and tourist facilities, as well as digitizing heritage databases, deploying multilingual automatic audio guides, and developing interactive cultural experiences. Third, Ha Nam should establish a unified digital database of tourism resources and implement smart tourism systems featuring eticketing, interactive maps, virtual guides, online feedback channels, e-commerce, and digital marketing to enhance accessibility and service efficiency. Fourth, community and tourism enterprise development should be strengthened through skill training programs and financial support, enabling residents and businesses to actively participate in and benefit from the tourism value chain. Finally, the province should upgrade tourism infrastructure under a "tourism-centric" planning approach, focusing on improving transport connectivity between key attractions such as Tam Chuc, Phu Ly, Ly Nhan, and Kim Bang. A destination quality management framework should be developed to integrate environmental, safety, sanitation, and visitor satisfaction indicators. Moreover, public-private partnerships (PPP) should be encouraged in developing service hubs, visitor centers, and cultural festivals to ensure both quality improvement and sustainable growth.

*Acknowledgements: This study is part of the provincial-level scientific project 'Research on tourism development oriented towards digital transformation in Ha Nam province' (Contract No. 05/2023/HĐ-NCKH&PTCN, dated December 19, 2023). The authors would like to thank the funding agency and all stakeholders for their support during the research process.

REFERENCES

- [1] UNWTO, (2023). *Tourism Highlights 2023 Edition*. United Nations World Tourism Organization.
- [2] Beerli A & Martín JD, (2004). Tourists' characteristics and the perceived image of tourist destinations: A quantitative analysis a case study of Lanzarote, Spain. *Tourism Management*, 25(5), 623-636. https://doi.org/10.1016/j.tourman.2003.06.004.
- [3] Stylidis D, Belhassen Y & Shani A, (2017). Destination image, on-site experience and behavioural intentions: Path analytic validation of a marketing model on domestic tourists. *Current Issues in Tourism*, 20(15), 1653-1670. https://doi.org/10.1080/13683500.2015.1058267.
- [4] Buhalis D, (2000). Marketing the competitive destination of the future. *Tourism Management*, 21(1), 97-116. https://doi.org/10.1016/S0261-5177(99)00095-3.
- [5] Kim SS & Perdue RR, (2011). The influence of image on destination attractiveness. *Journal of Travel & Tourism Marketing*, 27(8), 785-802.
- [6] Lee S, Lee C & Lee J, (2008). The impact of visitation motives on satisfaction and behavioral intentions at cultural heritage sites. *Tourism Management*, 29(6), 1084-1091. https://doi.org/10.1016/j.tourman.2008.02.004.

- [7] Echtner CM & Ritchie JRB, (1991). The meaning and measurement of the destination image. *Journal of Tourism Studies*, 2(2), 2-12.
- [8] Chen CF & Tsai DC, (2007). How destination image and evaluative factors affect behavioral intentions? *Tourism Management*, 28(4), 1115-1122. https://doi.org/10.1016/j.tourman.2006.07.007.
- [9] Crompton JL, (1979). An assessment of the image of Mexico as a vacation destination and the influence of geographical location upon that image. *Journal of Travel Research*, 17(4), 18-23. https://doi.org/10.1177/004728757901700404.
- [10] Pike S & Ryan C, (2004). Destination positioning analysis through a comparison of cognitive, affective, and conative perceptions. *Journal of Travel Research*, 42(4), 333-342. https://doi.org/10.1177/0047287504263029.
- [11] Prayag G & Ryan C, (2012). Antecedents of tourists' loyalty to Mauritius: The role and influence of destination image, place attachment, personal involvement, and satisfaction. *Journal of Travel Research*, 51(3), 342-356. https://doi.org/10.1177/0047287511410321.
- [12] Richards G, (2002). Tourism attraction systems: Exploring cultural behavior. *Annals of Tourism Research*, 29(4), 1048-1064.
- [13] Xiang Z & Gretzel U, (2010). Role of social media in online travel information search. *Tourism Management*, 31(2), 179-188. https://doi.org/10.1016/j.tourman.2009.02.01.
- [14] Gunn CA, (1997). Vacationscape: Developing Tourist Areas (2nd ed.). Taylor & Francis.
- [15] Gursoy D & McCleary KW, (2004). An integrative model of tourists' information search behavior. *Annals of Tourism Research*, 31(2), 353-373.
- [16] Neuhofer B, Buhalis D & Ladkin A, (2014). A typology of technology-enhanced tourism experiences. *International Journal of Tourism Research*, 16(4), 340-350. https://doi.org/10.1002/jtr.1958.
- [17] UNWTO, (2022). *Tourism and COVID-19 Recovery*. United Nations World Tourism Organization.
- [18] UNWTO, (2021). *Innovation, Technology and Smart Tourism for Recovery*. World Tourism Organization. https://www.unwto.org/.
- [19] Inskeep E, (1991). Tourism Planning: An Integrated and Sustainable Development Approach. Van Nostrand Reinhold.
- [20] Tasci ADA, & Gartner WC, (2007). Destination image and its functional relationships. Journal of Travel Research, 45(4), 413-425. https://doi.org/10.1177/0047287507299569.
- [21] Gretzel U, Sigala M, Xiang Z & Koo C, (2015). Smart tourism: foundations and developments. *Electronic Markets*, 25(3), 179–188.
- [22] Tabachnick BG & Fidell LS, (2019). *Using multivariate statistics* (7th ed.). Pearson Education.
- [23] Ha Nam Tourism Department, (2025). Report on tourism activities in 2024 and development orientation for 2025. Ha Nam.
- [24] Hair JF, Black WC, Babin BJ & Anderson RE, (2014). *Multivariate data analysis* (7th ed.). Pearson Education