

Traditional indigenous knowledge drives tourism growth: an empirical analysis in Hoi An, Vietnam

El conocimiento indígena tradicional impulsa el crecimiento del turismo: un análisis empírico en Hoi An, Vietnam

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Abstract

Indigenous knowledge (IK) is vital for sustainable agricultural practices, especially in agro-tourism development. Unlike previous research, which primarily focuses on agricultural sustainability, this study explores how IK influences tourist satisfaction, participation, and the overall tourism experience. Using Structural Equation Modeling (SEM), the research analyzes how IK impacts tourist attraction through mediators like infrastructure, products and services, and perceived value. Findings reveal that indigenous practices not only enhance agricultural productivity but also provide authentic, sustainable experiences that attract tourists and promote rural development. By integrating IK with modern tourism strategies, the study emphasizes the importance of preserving cultural heritage while driving economic growth. The research offers actionable insights for policymakers and tourism stakeholders, advocating for the promotion and protection of indigenous knowledge as a means of fostering sustainable rural development through agro-tourism.



Keywords: Agro-tourism; Sustainable Agriculture; Cultural Heritage; Indigenous Knowledge-Based Tourism, Vietnam.

Resumen

El conocimiento indígena (CI) desempeña un papel fundamental en las prácticas agrícolas sostenibles, especialmente en el desarrollo del agroturismo. A diferencia de estudios previos que se centran principalmente en la sostenibilidad agrícola, esta investigación analiza cómo el CI influye en la satisfacción del turista, su participación y la experiencia turística en general. Mediante el uso de Modelos de Ecuaciones Estructurales (SEM), se examina el impacto del CI en la atracción turística a través de mediadores como la infraestructura, los productos y servicios, y el valor percibido. Los resultados muestran que las prácticas indígenas no solo mejoran la productividad agrícola, sino que también ofrecen experiencias auténticas y sostenibles que atraen a los turistas y fomentan el desarrollo rural. Al integrar el CI con estrategias turísticas modernas, el estudio destaca la importancia de preservar el patrimonio cultural mientras se impulsa el crecimiento económico. Asimismo, proporciona aportes prácticos para responsables de políticas públicas y actores del sector turístico, promoviendo la protección y valorización del conocimiento indígena como una vía para impulsar el desarrollo rural sostenible mediante el agroturismo.

Palabras clave: Conocimiento indígena; Agroturismo; Agricultura sostenible; Patrimonio cultural; Turismo basado en el conocimiento indígena.

1. Introduction

Agritourism, a growing sector of rural tourism, plays a vital role in driving economic development in rural areas while promoting environmental conservation (Fan & Van-Trung, 2025; Fei et al., 2025; Fei & Ha, 2025; Ha Van et al., 2024; H. Van Trung, 2025; H. Van Trung et al., 2025b, 2025a; H. Wu & Van Trung, 2025). It provides tourists with an opportunity to engage with agricultural life, fostering a deeper understanding of food production and the rural lifestyle. However, the success and sustainability of agritourism are closely linked to the preservation and application of Indigenous Knowledge (IK), which represents the cumulative wisdom, practices, and knowledge of indigenous peoples developed over generations. This knowledge is invaluable for creating sustainable farming methods, conserving biodiversity, and offering unique, authentic tourism experiences (Dixit et al., 2023; Senanayake, 2006).

Despite the recognition of IK's potential, its specific contribution to developing sustainable agritourism models has received limited empirical investigation, particularly in Vietnam, where agriculture is deeply embedded in the tourism industry. Tra Que Vegetable Village, a small farming community in Quang Nam Province, is an example of how agritourism can be shaped by local

agricultural practices. Previous studies have highlighted how agricultural activities enhance tourist satisfaction and contribute to the village's agritourism development (Van Trung & Mohanty 2021, 2023). While agricultural experiences and local lifestyles are recognized as key drivers of tourism in Tra Que, the role of IK in sustaining and advancing these models remains underexplored. Understanding how IK influences tourist attraction and satisfaction is critical to designing sustainable agritourism models that support local communities and preserve cultural heritage.

This study addresses this research gap by investigating how IK contributes to the development and success of agritourism in villages in Hoi An, Vietnam. The research focuses on how traditional farming practices and local wisdom shape the agritourism model, analyzing both direct and indirect effects on tourist satisfaction and rural development. The study hypothesizes that IK enhances destination attractiveness, improves tourism product quality, strengthens local infrastructure, and enriches tourist experiences. Additionally, the research explores how perceived value moderates the relationship between tourism products and tourist satisfaction, positing that higher perceived value enhances tourists' response to the quality of their experiences.

By addressing these questions and focusing on Tra Que, Thanh Chiem, Cam Thanh, Thanh Dong, Kim Bong, and Thanh Ha villages, this research contributes to the broader discourse on sustainable tourism and rural development. It provides valuable insights for developing countries seeking to leverage IK for sustainable, culturally-rich agritourism models. Empirical evidence from this study can guide tourism stakeholders in creating authentic, sustainable experiences that promote rural development and preserve cultural heritage.

This paper proceeds by outlining the theoretical framework and hypotheses, followed by a detailed research methodology. The empirical findings are then presented and discussed, with recommendations based on the study's insights. Finally, the paper concludes by summarizing key contributions and providing suggestions for future research.

2. Literature review

Indigenous knowledge (IK) has a profound impact on various fields worldwide. In agriculture, Ethiopians utilize IK for plant protection, mitigating the adverse effects of fungi, selecting seeds, determining suitable growing locations, and implementing effective cropping systems (Melash et al., 2023). In South Africa, the Vhavenda community integrates IK into agricultural practices such as crop rotation, polyculture, intercropping, livestock farming, ploughing rituals, water harvesting, and seasonal agriculture (Malapane et al., 2024). IK plays a vital role in designing sustainable agricultural systems (Warren & Cashman, 1988). However, traditional IK in agriculture faces challenges like forest degradation and modernization (Reyes-García et al., 2013). In Pakistan, IK

is widely employed in traditional medicine, where local flora is used to treat conditions like arthritis, kidney stones, typhoid fever, stomach ailments, hepatitis, jaundice, and diabetes (Khan et al., 2020). Similarly, in the Ketama region of Northern Morocco, IK is instrumental in selecting medicinal plants to meet healthcare needs (El-Mernissi et al., 2023). Across African countries, IK plays a significant role in biodiversity preservation through taboos, totems, customs, rituals, social regulations, and traditional knowledge of plants, animals, and landscapes. Resource management systems based on IK further contribute to environmental sustainability (Sinthumule, 2023). In the Asia-Pacific region, IK supports adaptation to climate change by informing land and water management practices and developing livelihood strategies (Lebel, 2013). Moreover, research by Burgos-Ayala et al. (2020) highlights that IK enhances the well-being of indigenous communities and promotes effective environmental management.

Recent studies on IK-based tourism, including eco-tourism (Bernard et al., 2014), agro-tourism (Mardiany et al., 2021), cultural-tourism (Monaheng, 2016), show its potential in supporting indigenous communities and preserving culture (C. F. Butler & Menzies, 2007). IK contributes to sustainable tourism by enhancing environmental conservation and cultural interpretation (Carr et al., 2016). For example, in Vanuatu, IK underpins agritourism (McCarter & Gavin, 2014), and in Pampang Village, IK in farming is being integrated into tourism (Mardiany et al., 2021). IK-based agritourism boosts rural economies through innovative practices and tourism activities like farm tours and festivals (Sznajder, Przezbórska, et al., 2009), making it a key tool for economic growth in developing countries (Dragulanescu et al., 2012). Thus, IK fosters tourism growth by offering authentic cultural experiences that enhance service quality, destination image, and sustainability (Cheteni & Umejiesi, 2024). In New Zealand, IK has created value-added tourism experiences (R. Butler & Hinch, 2007), and it supports sustainable tourism by preserving natural resources (Hardy et al., 2024). However, over-commercialization risks commodifying IK, making community involvement essential (Higgins-Desbiolles, 2016).

Vietnam is home to 54 ethnic groups, each possessing unique and varied IK systems that have developed over centuries. This knowledge encompasses various aspects of life, including agriculture (Van et al., 2012), natural resource management (Xu & Mikesell, 2003), health practices (Huong et al., 2022), and cultural norms (T. Trung et al., 2005). IK systems are shown to be well-adapted to local environmental conditions, promoting sustainable practices. For instance, local agricultural methods such as intercropping and crop rotation, effectively utilizes IK to enhance food security and maintain ecological balance (T. Trung et al., 2005). In the northern regions, ethnic minority communities in northern Vietnam have developed complex farming systems based on IK, which adapt to local resources and enhance resilience to climate risk (Son et al., 2021).

However, their IK is adopted differently based on specific contexts and people groups. For example, the Thai ethnic minority in Vietnam employs ritual management of natural resources, which integrates spiritual beliefs with ecological practices. With their traditional knowledge, the Thai villagers know how, when, and what they should collect from the forests (CIRUM, 2012). The IK of the Hmong people encompass traditional agricultural practices, such as shifting cultivation and crop diversity, which are well-adapted to the mountainous terrain of Vietnam. They also possess extensive knowledge of medicinal plants, relying on herbal remedies for health care (Le Truong Cuc, 2001). In the southern regions, IK contributes to adapting to floods and agriculture in Mekong Delta (Phu & Bao Tran, 2023). In central Vietnam, the Xo Dang people adopt their traditional knowledge practices in response to climate change. They include the use of flora and fauna indicators, native plant varieties, the adjustment of planting calendars, irrigation practices, and the application of intercropping (Van Huynh et al., 2020).

The use of IK in tourism development in Vietnam has also been addressed in several recent studies. The study by Van Chat (2024) examines the use of IK in Ho Island, Tra Vinh province, in enhancing tourism development and living standards, revealing that this knowledge not only creates impressive tourism products but also forms secondary livelihoods. Dai Tuyen & Noseworthy (2023) find that the Cham people in central Vietnam use their IK in their customary practices to develop tourism. However, if it is over-commodified by the government, tensions will emerge. In Hoi An, Thanh Ha Pottery Village adopts their traditional indigenous pottery-making techniques that date back to the 16th century to attract tourists (Pham Hong et al., 2021). Tra Que Vegetable Village uses their organic farming methods combined with the use of natural algae from the Tra Que lagoon as fertilizer instead of chemicals to enhance tourist experiences, directly improving tourist attraction (H. Van Trung & Mohanty, 2023). Obviously, IK adoption is one of the crucial factors influencing the growth of tourism (Ha & Lien, 2024).

The integration of IK into rural tourism development has emerged as a powerful tool for promoting both cultural and sustainable tourism practices (H. Van Trung & Mohanty, 2023). Indigenous knowledge encompasses traditional practices, beliefs, and ways of life that have been passed down through generations. When applied to rural tourism development, this knowledge can contribute to the preservation of cultural heritage, environmental conservation, and economic empowerment of local communities. The socio-economic impact of incorporating IK into rural tourism can be substantial, as it creates opportunities for employment, income generation, and cultural revitalization (Ismail et al., 2021). By showcasing traditional practices, arts, and crafts, rural communities can attract tourists seeking authentic experiences, leading to increased revenue and improved living standards. Furthermore, the integration of IK in tourism development can foster a

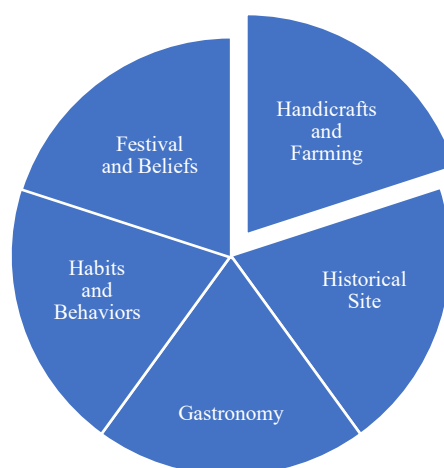
sense of pride and cultural identity among local populations, contributing to the overall sustainability of rural tourism initiatives (Ismail et al., 2021).

Thus, understanding the relationship between IK and tourism is key to appreciating its role in tourism development (Shrestha et al., 2024). In the field of agritourism, variables such as IK, Tourism Products (PS), Tourist Satisfaction (TS), Infrastructure Development (ID), Tourist Participation (TP), and Perceived Value (PV) are important factors impact to Tourists attraction of a destination (TA) (Sznajder, Przezbórska, et al., 2009). IK plays a key role to tourist attraction and tourist satisfaction (H. Van Trung & Mohanty, 2023, 2021).

In summary, after reviewing the literature, we have identified several gaps. Firstly, the literature does not thoroughly explore the relationships between IK and tourist attraction or how these can be leveraged to enhance tourism development. Additionally, IK's role in agritourism is not fully acknowledged. Secondly, there is a lack of studies of indigenous theories and empirical evidence in tourism. Moreover, research on how local indigenous knowledge attracts tourists to agritourism sites in Vietnam is quite scarce. Addressing these gaps presents opportunities for future research to better understand IK's role in agritourism. This paper aims to fill that gap by exploring the direct and indirect impacts of IK on tourist satisfaction and attraction. By addressing these issues, this research builds on prior studies and offers new insights into the unique role IK plays in shaping sustainable agritourism models, emphasizing the necessity of this investigation.

3. Theoretical and hypotheses

Figure 1. The composition of indigenous knowledge



Note. Elaborated by authors, source: Trung & Mohanty (2023)

This study builds upon the work of Van Trung and Mohanty (2023), which highlights the significance of traditional agricultural practices in attracting tourists to agritourism destinations,

particularly in Tra Que Vegetable Village, Hoi An. Tra Que, a centuries-old farming community, has transitioned from fishing to cultivating herbs and vegetables, leveraging its fertile soil and unique seaweed manure from the local lagoon. This distinctive agricultural lifestyle has played a crucial role in shaping the village's agritourism appeal (see Figure 1). Indigenous knowledge (IK) in Tra Que encompasses traditional farming techniques, cultural customs, local cuisine, and daily practices, all of which contribute to its sustainable tourism model. By integrating insights from Van Trung and Mohanty (2023), this study further examines how these elements of IK enhance tourist experiences, drive participation, and ultimately influence agritourism development. Through this theoretical foundation, the research explores the intricate relationship between indigenous agricultural knowledge and the evolving dynamics of agritourism, providing a framework for understanding its broader economic and cultural impacts.

Table 1: The indigenous knowledge and way-of-life in Tra Que

ASPECT	DESCRIPTION
Handicrafts and Farming	- Use traditional agro-production techniques. - Employ riverweeds for manure and conventional tools for cultivation - 95% of households use conventional farming methods. - Grow various vegetables and herbs for local markets and supermarkets.
Historical Site	- Features ancient tomb of Nguyen Van Dien - Champa water well. - Old temples with unique architecture.
Gastronomy	- Local cuisine includes dishes like 'banh xeo', 'goi hoa chuo', 'Tom huu', 'My Quang', and 'nuoc e'. - Reflects local culture and utilizes locally available ingredients.
Festival and Beliefs	- Worship of family ancestors and garden deities. - Temples include Ngoc princess temple, Nguyen Van family temple, Five elements temple, Local communal temple, and God of the soil temple. - 'Cau Bong' Festival celebrates agriculture and life.
Habits and Behaviors	- Daily care of gardens and harvesting routines. - Spend significant time on the farm, fostering lively atmosphere. - Kind-heartedness, belief in good fortune, hospitality, and friendliness contribute to visitors' positive experiences.

Note: Source is from Van Trung & Mohanty (2021)

Tra Que, Thanh Chiem, Cam Thanh, Thanh Dong, An My, and Cam Kim villages have been selected as typical case studies because they represent a rich repository of indigenous knowledge (IK) in agricultural practices, which plays a significant role in the development of agritourism in these villages (for example, Tra Que Village, as illustrated in Table 1). The villages are well-known for its traditional techniques, passed down through generations, which contribute to the production of high-quality tourism productions. This traditional knowledge, rooted in sustainable practices, not only ensures the preservation of local culture and biodiversity but also enhances the authenticity and appeal of the village as a tourist destination.

The rising demand for authentic and transformative travel experiences offers a significant opportunity for tourist destinations to utilize IK. Given the cultural diversity and wisdom within indigenous communities, IK can greatly enhance a destination's appeal (Scheyvens et al., 2021). These cultural offerings can promote cross-cultural understanding, environmental stewardship, and responsible tourism. Integrating IK into tourism can create unique visitor engagement through access to specific traditions, rituals, and practices (Wani et al., 2023). Unlike other villages around Hoi An where IK is neglected, these villages are notable for their unique appeal. Empowering local communities through tourism initiatives shows a strong link between IK and a destination's attractiveness (UNWTO, 2021). Thus, we hypothesize that (Hypothesis 1) the diversity and uniqueness of IK enhance tourism attractiveness (TA).

Indigenous agricultural knowledge (IK) is a powerful tool for creating engaging tourism products that attract visitors seeking both sightseeing and immersive experiences (Pratt et al., 2013). IK enhances these products' appeal by offering authenticity, immersive learning, and sustainability, showcasing unique traditions tied to the local environment and cultural heritage (Carr et al., 2016). These generational practices provide a refreshing alternative to mainstream tourism, appealing to those seeking unique and meaningful experiences. IK fosters authenticity by connecting visitors with local traditions and offers immersive learning opportunities that deepen cultural understanding through direct engagement with agricultural practices. IK-based tourism products can fully immerse visitors in sustainable agricultural methods like crop rotation, water conservation, and natural pest control, appealing to eco-conscious travelers (Gössling, 2003). Additionally, these products engage multiple senses, such as the craftsmanship of old utensils or the flavors of locally prepared dishes. By blending sightseeing, experiential learning, and sustainability, IK-based tourism products have immense potential to attract and engage visitors (T. C. Wu et al., 2020). The influence of IK varies spatially and temporally, depending on local culture, environmental conditions, and shifting tourist preferences, particularly towards sustainability and cultural heritage. Thus, we hypothesize that (Hypothesis 2) IK positively affects the attractiveness of tourism products (PS), serving as key factors in attracting tourists for sightseeing and experiential purposes (TA).

Indigenous agricultural knowledge (IK) fosters sustainable farming, resilience, and harmony with nature, enhancing local infrastructure such as roads, restaurants, and community services (Radcliffe & Parissi, 2022). Improved infrastructure supports agriculture and tourism by providing amenities like comfortable accommodations, convenient transportation, and cultural experiences (UNWTO, 2021). Areas incorporating IK into infrastructure attract tourists seeking cultural immersion, promoting sustainable tourism and benefiting local communities and visitors (Feng et

al., 2023). Therefore, it is hypothesized that (Hypothesis 3) IK positively influences local infrastructure development (ID), which enhances tourism experiences and increases tourist attraction (TA).

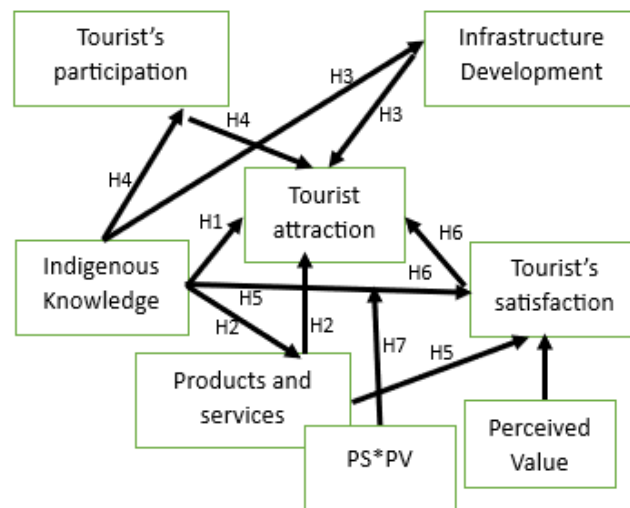
IK is a unique cultural aspect that attracts tourists seeking authentic experiences (Abascal et al., 2019). Regions rich in IK likely draw tourists interested in agricultural tourism (Prasetyo et al., 2023). Additionally, The trend towards experiential tourism aligns with agricultural tourism, indicating a growing demand for TP as tourists seek interactive experiences (H. Van Trung & Mohanty, 2023). Positive TP experiences are shared, enhancing destination appeal (Loureiro & Sarmiento, 2018). Thus, it's hypothesized that (Hypothesis 4) IK directly attracts tourists to agricultural tourism experiences (TP), and increased participation enhances tourist attraction (TA).

IK in each village is unique, aiding in the creation of high-quality tourism products and services (PS) (Hart, 2010), which impact tourist satisfaction (Alegre & Garau, 2010). Studies indicate that IK is crucial for Indigenous socioeconomic development through tourism. For instance, in Kenya, IK enhances tourism through indigenous foods, accommodations, cultural events, art, music, dances, ceremonies, festivals, cultural sites, and museums (Kwanya, 2015). High-quality tourism services greatly improve visitor satisfaction (Weng et al., 2023). The quality of products and services affects tourist satisfaction through facilities, accessibility, and attractions (Al-Ababneh, 2013). Based on this, we propose the hypothesis that (Hypothesis 5) the application of IK positively affects the creation of high-quality IK-based tourism products, directly influencing tourist satisfaction (TS).

The IK allows tourists to immerse themselves in local culture and traditions, enhancing their overall experience and satisfaction (TS). This cultural understanding, derived from IK exploration, benefits both tourists and local communities (T. C. Wu et al., 2020). Research indicates such experiences foster a positive view of tourism as a development tool, as observed in the northwestern Himalayas, India, and Nepal (Wani et al., 2023; Shrestha et al., 2024). Notably, tourists in Tra Que village, Vietnam, are intrigued by the farmers' lifestyle, greatly enhancing their satisfaction (H. Van Trung & Mohanty, 2023). Satisfaction here measures how well a destination meets tourists' expectations for product and service quality. High satisfaction can improve the destination's image (Braumah et al., 2024). Moreover, satisfied tourists are more likely to revisit and recommend the destination, positively influencing tourist attraction (TA) through trusted endorsements (Torabi et al., 2023). Thus, it is hypothesized that (Hypothesis 6) experiencing IK increases TS, which in turn boosts TA. This hypothesis is supported by evidence showing that tourist experiences positively affect satisfaction and indirectly influence return intentions through satisfaction (Baghirov et al., 2023)

The study posits a complex interplay between the perceived value of tourism, the appeal of tourism products, and tourist satisfaction, influenced by community knowledge. Perceived tourism value varies among tourists, encompassing functional, emotional, social, cognitive, and self-actualization values (Zhang et al., 2023). Attractive tourism products and services—ranging from natural landscapes and local lifestyles to cultural heritage and cuisine—enhance this perceived value (Smith, 1994). The combination of these elements can significantly enrich the tourist experience, leading to higher satisfaction (Lin et al., 2023). Indigenous community knowledge, including local customs, traditions, folklore, and insider tips, is crucial for providing an immersive and authentic experience, thus elevating satisfaction levels. Consequently, (Hypothesis 7) “The perceived value of tourism as a moderator positively affects the relationship between tourism products and tourist satisfaction” is a logical proposition. This suggests a synergistic relationship where increased perceived value and attractive tourism products, augmented by community knowledge, enhance tourist satisfaction. The study will test this hypothesis in the agro-tourism context of Tra Que Village. This framework provides a comprehensive understanding of how IK drives tourist satisfaction and attraction, supported by theoretical and empirical evidence (see Figure 2).

Figure 2. Conceptual model



Source: Elaborated by the authors

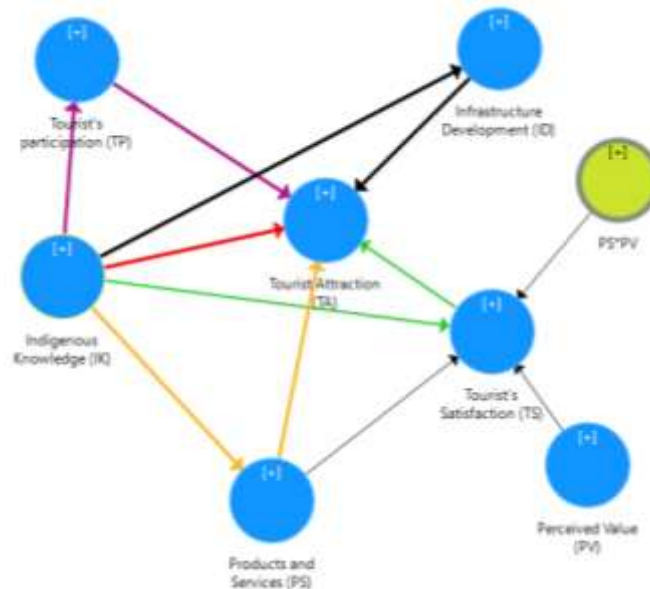
4. Research methodology

4.1. Research Design

The conceptual justification for the SEM model in this study posits that Indigenous Knowledge (IK) is crucial for enhancing the authenticity, sustainability, and appeal of agritourism destinations. IK impacts mediating variables such as infrastructure development, products and services, and

tourist participation, which collectively influence the quality of the tourist experience. Authentic activities rooted in traditional agriculture deepen tourists' connection to the destination, increasing satisfaction. Perceived value moderates this effect, enhancing the positive impact of high-quality tourism products and services derived from IK on tourist satisfaction, illustrated in Figure 3.

Figure 3. Statistical model



Note. Elaborated by the authors

SEM, commonly used to validate theoretical models defining causal relationships between variables (Bauldry, 2015) and frequently applied in tourism studies (do Valle & Assaker, 2016), is the chosen methodology. SEM is an essential method for tourism researchers aiming to explore the intricate relationships between indigenous knowledge (IK), tourist satisfaction, and tourist attraction. Unlike more straightforward analyses, SEM enables a deeper investigation into how these variables interact, particularly in scenarios where relationships are multifaceted. For example, it allows us to assess whether tourist satisfaction plays a mediating role between IK and destination attraction, or whether different types of tourists influence these connections. By treating "IK," "satisfaction," and "attraction" as underlying variables represented by multiple observable indicators, SEM offers a more detailed and comprehensive understanding of how these factors shape the tourism experience in complex environments.

4.2 SEM model

The general structural equation model consists of two parts: the structural part linking latent variables via simultaneous equations, and the measurement part linking latent variables to

observed variables via a confirmatory factor model. The structural part of the model can be written as follows:

$$\eta = B\eta + \Gamma\xi + \zeta \quad (1)$$

where η is a vector of endogenous (criterion) latent variables, ξ is a vector of exogenous (predictor) latent variables, B is a matrix of regression coefficients relating the latent endogenous variables to each other, Γ is a matrix of regression coefficients relating endogenous variables to exogenous variables, and ζ is a vector of disturbance terms.

The latent variables are linked to observable variables via measurement equations for the endogenous variables and exogenous variables. These equations are defined as:

$$y = \Lambda_y \eta + \epsilon \quad (2)$$

and

$$x = \Lambda_x \xi + \delta \quad (3)$$

where Λ_y and Λ_x are matrices of factor loadings, respectively, and ϵ and δ are vectors of uniqueness, respectively.

Based on the SEM model depicted in Figure 1, the study proposes corresponding SEM equations. This diagram of causal relationships between observed and latent variables can be expressed through a system of simultaneous equations or summarized in a matrix expression. These equations represent hypothesized relationships among latent variables, with each equation corresponding to a structural path in the model.

$$\text{Tourist Attraction (TA): } TA = \beta_1 * IK + \beta_2 * ID + \beta_3 * PS + \beta_4 * TP + \beta_5 * TS + \epsilon_1 \quad (4)$$

$$\text{Infrastructure Development (ID): } ID = \beta_6 * IK + \epsilon_2 \quad (5)$$

$$\text{Products and Services (PS): } PS = \beta_7 * IK + \epsilon_3 \quad (6)$$

$$\text{Tourist's Participation (TP): } TP = \beta_8 * IK + \epsilon_4 \quad (7)$$

$$\text{Tourist's Satisfaction (TS): } TS = \beta_1 * IK + \beta_9 * PS + \beta_{10} * PV + \beta_{11} * (PS * PV) + \epsilon_5 \quad (8)$$

Moderating Effect of Perceived Value (PV): The moderating effect of PV on the relationship between PS and TS is represented by the interaction term (PS * PV). This term is included in the equation for TS

4.3 Study site

Hoi An is home to several traditional villages that contribute to its rich cultural and agritourism landscape. The study was conducted in six traditional villages around Hoi An, a UNESCO World Heritage site: Tra Que, Thanh Chiem, Cam Thanh, Thanh Đông, An My, and Cam Kim. Tra Que Village is renowned for its organic vegetable farming, where locals use seaweed from the nearby lagoon as fertilizer, offering visitors hands-on farming experiences. Thanh Chiem Village holds historical significance as the birthplace of the modern Vietnamese script and a former administrative center during the Nguyen Dynasty. Cam Thanh Village, famous for the “Rừng dừa Bảy Mẫu” (Bay Mau Coconut Forest), provides eco-tourism experiences such as basket boat rides through lush waterways. Thanh Đông Village is an emerging organic farm community that promotes sustainable agriculture and eco-friendly tourism. An My Village is a lesser-known yet charming destination with traditional rice farming and rural landscapes, offering insight into authentic countryside life. Lastly, Cam Kim Village, located across the Thu Bồn River, not only is renowned for its skilled carpentry but also famous for traditional agricultural practices.

4.4. Sample and data collection

Data collection for this study was conducted from January to March 2024, targeting both domestic and international tourists visiting the six tourism villages. Structured questionnaires were used to test hypotheses on tourists of all ages and genders participating in IK activities. Convenience sampling yielded 600 responses for all visitors in the villages. Finally, the population is sufficient for Structural Equation Modeling (SEM) analysis (Rosseel, 2020).

Nonprobability sampling was used to select respondents, employing simple random sampling based on two criteria: experience with all agritourism services at destinations and visits before March 30, 2024. The questionnaire was developed, pretested, and comprised 22 questions on 7 variables: IK (3), Tourism PS (4), TS (2), ID (3), TA (2), TP (3), and PV (5), using a 5-point Likert scale. After collecting feedback from 30 respondents in a pre-test, the questionnaire was revised and deployed over six periods, yielding 600 responses. Data were validated before analysis using PLS, SPSS, and AMOS to ensure reliability.

The measurement scales primarily rely on a 5-point Likert scale to capture tourists' perceptions of Indigenous Knowledge (IK), satisfaction, and attraction. Each latent variable—like IK or tourist satisfaction—is measured through several related items, ensuring a nuanced understanding of these concepts. Cronbach's alpha, Composite Reliability (CR), and Average Variance Extracted (AVE) are used to assess the reliability and validity of these scales, ensuring the consistency and accuracy of the constructs. Confirmatory Factor Analysis (CFA) validates the measurement model,

confirming that the observed variables represent the latent constructs well, while discriminant and convergent validity checks ensure the constructs are distinct and measured accurately. This robust approach allows for reliable data analysis in the Structural Equation Modeling (SEM). Data collection detail is presented in Table 2.

Table 2. Descriptive statistics of variables

VARIABLE	CONSTRUCTS AND MEASUREMENT ITEMS	CORR. COEF	MEAN	MEDI	ST. DEV
Indigenous Knowledge (IK)	IK 1	0.44	3.24	3	1.42
	IK 2	0.53	3.38	4	1.37
	IK 3	0.76	3.08	3	1.37
Tourism Products and Services (PS)	PS 4	0.37	3.25	3	1.42
	PS 5	0.85	3.29	3	1.32
	PS 6	0.35	3.30	3	1.34
	PS 7	0.45	3.11	3	1.31
Tourist's Satisfaction (TS)	TS 8	0.93	4.06	4	0.93
	TS 9	0.61	4.19	4	0.83
Infrastructure Development (ID)	ID 10	0.45	3.13	3	1.43
	ID 11	0.15	3.08	3	1.35
	ID 12	0.87	3.16	3	1.40
Tourist Attraction (TA)	TA 13	0.25	3.68	4	1.24
	TA 14	0.94	3.43	4	1.31
Tourist's Participation (TP)	TP 15	-0.28	1.82	2	0.67
	TP 16	0.85	3.29	3	1.41
	TP 17	0.53	3.55	3	1.02
Perceived Value (PV)	PV 18	0.52	4.05	4	1.09
	PV 19	0.64	4.31	5	1.03
	PV 20	0.03	4.10	5	1.08
	PV 21	0.44	4.23	5	0.98
	PV 22	0.76	4.21	5	1.02

Note. Elaborated by authors

5. Empirical results

5.1. Profile of Respondents

Survey respondents were predominantly male (mean = 1.51, SD = 0.50), mostly aged 26-45 (mean = 2.83, median = 36-45). Most were married (mean = 1.45, median = 1) and largely from Vietnam (mean = 1.68, median = 1, SD = 1.08). Education levels varied, with most being graduates (mean = 2.62, median = 3, SD = 1.07). Travel frequency was once per year (mean and median = 1.03, SD = 1.48) (see in Table 3 and 4).

Table 3. Descriptive statistics of respondents

CATEGORY		FREQUENCY	%		CATEGORY	FREQUENCY	%
Sex	(1) Male	235	39.2	Nationality	(1) Vietnamese	256	42.7
					(2) ASIAN	165	27.5

Age:	(2) Female	365	60.8	Education	(3) European	77	12.8
	(1) 18-25	102	16.8		(4) Australian	65	10.8
	(2) 26-35	111	18.7		(5) Others	37	6.2
	(3) 36-45	231	38.5		(1) No education	43	7.2
	(4) 46-55	80	13.3		(2) Under-graduate	102	17.0
Travel frequency per year	(5) > 55	76	12.7	Marial Status	(3) Graduate	316	52.7
	(1) Once	418	69.7		(4) Post- graduate	139	23.2
	(2) Twice	114	19.0		(1) Married	297	49.5
	(3) 03 times	32	5.3		(2) Not married	303	50.5
	(4) 04 times	10	1.7				
	(5) > 04 times	26	4.3				

Note. Elaborated by authors

Table 4. Descriptive statistics of respondents (Continue)

	MEAN	MEDIAN	STANDARD DEVIATION	KURTOSIS	SKEWNESS
Gender	1.51	2	0.50	-2.01	-0.03
Age	2.83	3	1.46	-1.37	0.20
Marial Status	1.45	1	0.50	-1.97	0.19
Nations	1.68	1	1.08	3.05	1.91
Education	2.62	3	1.07	-1.21	-0.20
Travel frequency	1.03	1	1.48	-1.38	-0.05

Note. Elaborated by authors

5.2. Assessing the Validity of Measurement Model

5.2.1. Confirmatory Factor Analysis (CFA)

Table 5. CFA results

VARIABLE	INDICATOR	CRONBACH'S ALPHA	CRONBACH'S ALPHA OF VARIABLE	COMPOSITE RELIABILITY (CR)	AVERAGE VARIANCE EXTRACTED (AVE)
IK	IK 1	0.734	0.743	0.703	0.549
	IK 2	0.728			
	IK 3	0.762			
PS	PS 4	0.765	0.793	0.792	0.595
	PS 5	0.849			
	PS 6	0.751			
	PS 7	0.849			
TS	TS 8	0.870	0.779	0.768	0.626
	TS 9	0.702			
ID	ID 10	0.748	0.805	0.752	0.733
	ID 11	0.754			
	ID 12	0.875			

TA	TA 13	0.817	0.896	0.793	0.771
	TA 14	0.919			
TP	TP 15	0.786	0.775	0.738	0.859
	TP 16	0.847			
	TP 17	0.726			
PV	PV18	0.746	0.788	0.813	0.829
	PV19	0.736			
	PV20	0.727			
	PV21	0.744			
	PV22	0.754			

Note. Elaborated by authors

Unidimensionality was used to assess the validity and reliability of the indicators. We evaluated the unidimensionality of each variable using CFA including Cronbach's alpha, CR, and AVE for each factor, and elaborated in Table 5. Validity tests revealed all variables had KMO values above 0.5 (Nkansah, 2018). Cronbach's alpha values for each construct were above the 0.70 threshold (Hair, 2009). Moreover, across all constructs, Cronbach's alpha values demonstrate high internal consistency, ranging from 0.743 to 0.896. CR values also exceeded the recommended 0.70, ranging between 0.7 and 0.9, indicating effective measurement of the same construct and strong reliability (Flury et al., 1988). Thus, All indicators were retained, and AVE values surpassed the 0.50 threshold (J. Hair, 2009), affirming qualified unidimensionality.

Table 6. Correlation matrix and Discriminant validity (AVE)

	IK	ID	PS*PV	PV	PS	TA	TP	TS
IK	(0.591)							
ID	0.288	(0.574)						
PS*PV	-0.02	0.001	(1.000)					
PV	-0.058	-0.064	-0.052	(0.539)				
PS	0.265	0.295	-0.063	-0.064	(0.543)			
TA	0.140	0.090	-0.045	-0.096	0.101	(0.69)		
TP	0.102	-0.017	-0.102	-0.105	0.147	0.117	(0.599)	
TS	0.020	0.082	-0.013	0.145	-0.063	-0.002	-0.094	(0.782)

Note: Good discriminant validity of constructs/factors as the values in brackets are larger than the correlations (Roldán & Sánchez-Franco, 2012). Correlation is significant at the 0.01 level (2-tailed).

Thus, all latent constructs demonstrated sufficient validity and reliability. Moreover, Table 6 indicates that the squares of associations between constructs were consistently lower than the AVE values, demonstrating discriminant validity (Fornell & Larcker, 1981). This assessment confirmed that reflective constructs had stronger relationships with their own indicators than with others in the PLS path model.

5.2.2. Assessing the Validity of Structural Model

Table 7. Collinearity Statistics (VIF) of inner model

	IK	ID	PV	PS	TA	TP	TS
IK		1.000		1.000	1.142	1.000	1.078
ID					1.172		
PV							1.006
PS					1.169		1.078
TA							
TP					1.039		
TS					1.019		

Note. Elaborated by authors

Table 8. Assessment of the direct impact and indirect impact of regression coefficients, R-Square, and Adjusted R-Square.

DIRECT IMPACT	COEFF.	P VALUES	INDIRECT IMPACT	COEFF.	P VALUES	VARIABLE	R SQUARE	R SQUARE ADJUSTED
(IK) -> (ID)	0.288	0.000	(IK) -> (ID) -> (TA)	0.013	0.042	(ID)	0.185	0.181
(IK) -> (PS)	0.265	0.000	(IK) -> (PS) -> (TA)	0.012	0.041	(PS)	0.271	0.269
(IK) -> (TA)	0.110	0.019	(IK) -> (TP) -> (TA)	0.010	0.049	(TA)	0.330	0.328
(IK) -> (TP)	0.100	0.027	(IK) -> (TS) -> (TA)	0.001	0.038	(TP)	0.109	0.108
(IK) -> (TS)	0.035	0.048	(PV) -> (TS) -> (TA)	0.003	0.021	(TS)	0.309	0.307
(ID) -> (TA)	0.046	0.050	(PS) -> (TS) -> (TA)	-0.001	0.271			
(PV) -> (TS)	0.141	0.013	(IK) -> (PS) -> (TS) -> (TA)	0.000	0.033			
(PS) -> (TA)	0.047	0.040	(IK) -> (PS) -> (TS)	-0.016	0.029			
(PS) -> (TS)	-0.059	0.049						
(TP) -> (TA)	0.097	0.039						
(TS) -> (TA)	0.023	0.007						

Note. Elaborated by authors

Table 7 shows that Collinearity Statistics (VIF) of the inner model were below 3, indicating no collinearity issues among variables in the SEM model (J. F. Hair et al., 2021). Table 8 evaluates the direct and indirect impacts of regression coefficients in the model, showing that P-values for both impacts are valid and significant at the 0.05 level (J. F. Hair et al., 2019). R² values of 0.75, 0.50, and 0.25 are considered substantial, moderate, and weak, respectively (J. F. Hair et al., 2021). The

R2 and Adjusted R2 values for TP were weak, for TA and TS were moderate, and for PS and ID were substantial, indicating satisfactory predictive power based on the research context.

Table 9. Assessment of the explanatory power of independent variables on the dependent variable

F2 EFFECT SIZE	P VALUES	CONCLUSION	F2 EFFECT SIZE	P VALUES	CONCLUSION
(IK) -> (ID)	0.001	Explained	(PV) -> (TS)	0.011	Explained
(IK) -> (PS)	0.002	Explained	(PS) -> (TA)	0.046	Explained
(IK) -> (TA)	0.046	Explained	(PS) -> (TS)	0.022	Explained
(IK) -> (TP)	0.039	Explained	(TP) -> (TA)	0.047	Explained
(IK) -> (TS)	0.034	Explained	(TS) -> (TA)	0.045	Explained
(ID) -> (TA)	0.048	Explained			

Note. Elaborated by authors

To assess the explanatory power of independent variables on the dependent variable, we used F-square and P-Value (J. F. Hair et al., 2021). Table 9 shows that all latent independents significantly explain the dependent variable when the P-value is below the 0.05 level.

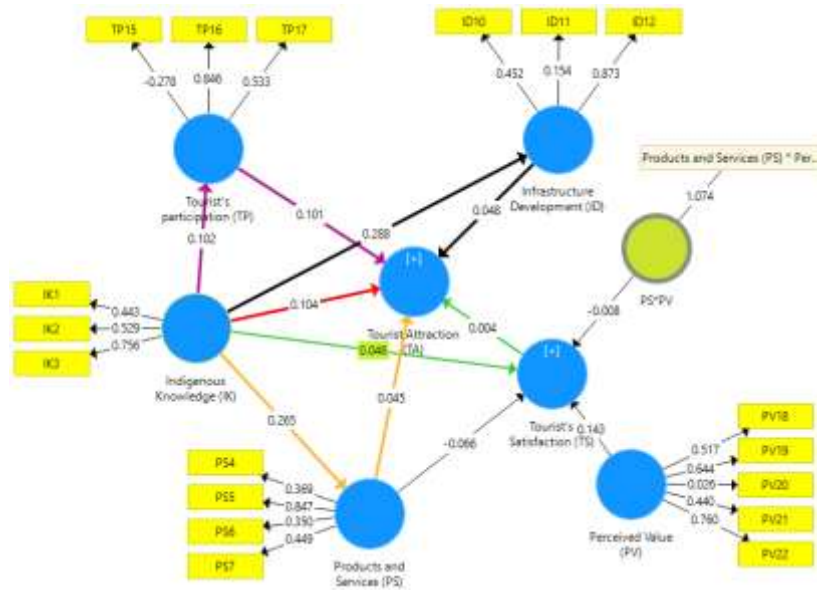
5.2.3. Result of Structural Equation Model

Table 10. Comparison of Orthogonal and Two-Stage Methods

	ORIGINAL SAMPLE	SAMPLE MEAN	STANDARD DEVIATION	T-STATISTICS	P-VALUES
Orthogonalization method (The prediction)					
PS*PV -> Tourist's Satisfaction	0.141	0.059	0.209	0.675	0.049
Two stage method (The explanation)					
PS*PV -> Tourist's Satisfaction	-0.008	-0.007	0.044	0.182	0.040

Note. Elaborated by authors

Figure 4. PLS-SEM model



Note. Elaborated by the authors

Table 11. Result of Structural Equation Model (Two-stage)

RELATIONS	ORIGINAL SAMPLE	SAMPLE MEAN	STANDARD DEVIATION	T STATISTICS	P VALUES
(IK) -> (ID)	0.288	0.291	0.039	7.354	0.000
(IK) -> (PS)	0.265	0.273	0.039	6.878	0.000
(IK) -> (TA)	0.104	0.108	0.071	1.472	0.019
(IK) -> (TP)	0.102	0.109	0.068	1.510	0.027
(IK) -> (TS)	0.046	0.044	0.056	0.827	0.048
(ID) -> (TA)	0.048	0.033	0.062	0.775	0.050
PS*PV -> (TS)	-0.008	-0.007	0.044	0.182	0.013
(PV) -> (TS)	0.143	0.16	0.059	2.422	0.040
(PS) -> (TA)	0.045	0.045	0.056	0.803	0.049
(PS) -> (TS)	-0.066	-0.061	0.055	1.206	0.039
(TP) -> (TA)	0.101	0.048	0.116	0.872	0.007
(TS) -> (TA)	0.004	0.035	0.080	0.049	0.000

Note. Elaborated by authors

The P-values presented in Table 10 indicates both orthogonal and two-stage methods are statistically significant ($P < 0.05$). However, this study prioritizes the two-stage method due to its focus on variable relationships. The final SEM model results (Figure 4 and Table 11) confirm reliable and accepted relationships among variables ($P < 0.05$), with all showing positive directional relationships except PS*PV and PS to TS.

The PLS-SEM model (Figure 4) reveals that IK significantly enhances ID, PS, TA, and TP. PV positively affects TS, while PS positively influences TA but negatively impacts TS. TS has a weak yet significant positive effect on TA, highlighting IK's crucial role in improving agritourism, leading to greater tourist satisfaction and attraction.

5.2.4. The assessment of mediation models

The Variance Accounted For (VAF)

Table 12. VAF value

	TOTAL INDIRECT EFFECT	TOTAL EFFECT	VAF PRESENTATIVE	P- VALUE
Indigenous Knowledge (IK) -> Tourist Attraction (TA)	0.036	0.146	0.247	***

Note. Elaborated by authors

The Structural Equation Model shows TP, ID, PS, and TS as mediator variables. VAF assesses the mediation effect of these variables on the impact of IK on TA (Mehmetoglu, 2015). VAF is calculated as $VAF = (\text{Indirect Effect}) / (\text{Total Effect})$, with results in Table 12 showing a significant VAF of 0.247 (24.7%), indicating partial mediation.

The different value (D value)

Table 13: The different value (D-value) between 2 models

HYPOTHESIS	MODEL	
(IK) -> (ID) -> (TA)	M1 (IK) -> (ID) -> (TA)	
(IK) -> (PS) -> (TA)	M2 (IK) -> (PS) -> (TA)	
(IK) -> (TP) -> (TA)	M3 (IK) -> (TP) -> (TA)	
(IK) -> (TS) -> (TA)	M4 (IK) -> (TS) -> (TA)	
M1-M2	D-VALUE	CONCLUSION
Percentile lower (2.5%)	-0.057	No evidence proves that (ID) -> (TA) stronger than (PS) -> (TA)
Percentile lower (97.5%)	0.047	
M1-M3		
Percentile lower (2.5%)	-0.035	No evidence proves that (ID) -> (TA) stronger than (TP) -> (TA)
Percentile lower (97.5%)	0.016	
M1-M4		
Percentile lower (2.5%)	-0.031	No evidence proves that (ID) -> (TA) stronger than (TS) -> (TA)
Percentile lower (97.5%)	0.022	

M2-M3		
Percentile lower (2.5%)	-0.035	No evidence proves that (PS) -> (TA) stronger than (TP) -> (TA)
Percentile lower (97.5%)	0.05	

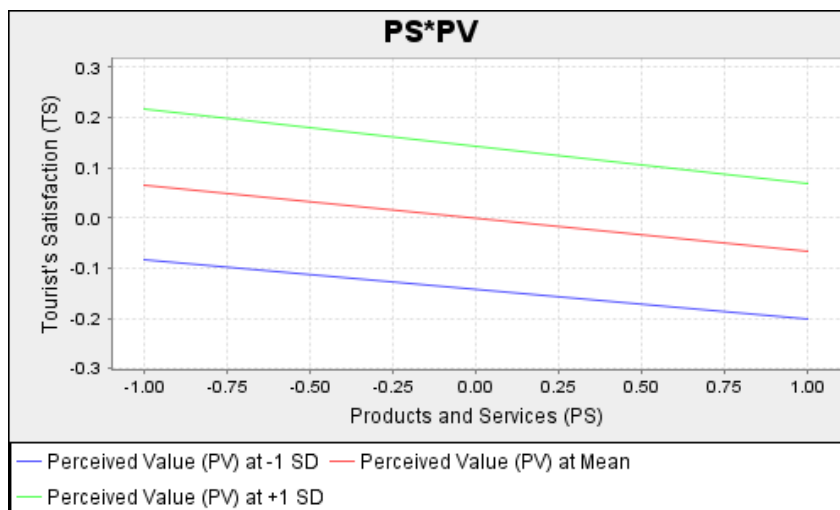
Note. Elaborated by authors

Multiple hypotheses were formulated regarding IK's influence on TA, resulting in four models (Table 13), each representing a unique intermediary variable mediating IK's effect on TA. The D-value coefficient, derived from models M1 to M4, indicates no conclusive evidence on which model has a stronger impact due to lower percentiles being both above and below zero.

Conclusively, the hypotheses (IK) -> (ID) -> (TA), (IK) -> (PS) -> (TA), (IK) -> (TP) -> (TA), and (IK) -> (TS) -> (TA) are supported, with ID, PS, TP, and TS acting as intermediary variables in IK's impact on TA. The intermediary effect is partial, with potential other variables involved. The VAF analysis shows the four intermediary variables contribute 24.7% to the overall impact, while the D index analysis indicates insufficient evidence to determine the most prominent intermediary variable explaining IK's impact on TA.

5.2.5 The role of Perceived Value on Tourist Satisfaction

Figure 5. Moderator Variable Analysis (Simple Slope Analysis) - Perceived Value



Note. Elaborated by authors

Hypothesis 7 suggests perceived value moderates the relationship between products and satisfaction. We investigate this using simple slope analysis (Zhang et al., 2023) (see Figure 5). The green line (PV +1 SD) shows a strong positive relationship, the red line (PV at Mean) indicates a weaker positive relationship, and the blue line (PV -1 SD) depicts the weakest positive relationship. Tra Que's tourism products have not fully attracted tourists, leading to a decline in satisfaction ($TS = -0.06PS$). However, with perceived value as a moderator, satisfaction increases

($TS = -0.008PS \cdot PV$). To boost tourist satisfaction, enhancing perceived value is essential. To increase the satisfaction level of tourists, it is necessary to enhance the perceived value of tourists, specifically as follows:

Model with mediator PV: $TS = -0.066 \cdot PS + 0.143 \cdot TS + (-0.008) \cdot PS \cdot PV$

Model at high value of PV: $TS = 0.143 - 0.074 \cdot PS$

Model at median value of PV: $TS = -0.066 \cdot PS$

Model at low value of PV: $TS = -0.143 - 0.058 \cdot PS$

6. Discussion and recommendation

Table 14. Summary of outcomes of hypothesis tests

HYPOTHESIS	RELATIONSHIP	ESTIMATE	STANDARD ERROR	T-STATISTICS	P VALUE	CONCLUSION
H1	IK → TA	0.104	.030	1.472	**	Supported
H2	IK → PS	0.265	.037	6.878	***	Supported
	PS → TA	0.045	.043	0.803	**	Supported
H3	IK → ID	0.288	.130	7.354	***	Supported
	ID → TA	0.048	.076	0.775	**	Supported
H4	IK → TP	0.102	.070	1.510	**	Supported
	TP → TA	0.101	.049	0.872	***	Supported
H5	IK → PS	0.265	.037	6.878	***	Supported
	PS → TS	-0.066	.755	1.206	**	Rejected
H6	IK → TS	0.046	.094	0.827	**	Supported
	TS → TA	0.004	.486	0.049	***	Supported
H7	PS·PV → TS	-0.008	.071	0.182	**	Supported

Notes: *** $p < 0.01$, ** $p < 0.05$, elaborated by authors.

The findings (Table 14) refine recent discussions on Indigenous Knowledge (IK) in tourism by showing that its impact on tourist attraction operates more strongly through participatory experiences and infrastructure than through tourism products or satisfaction alone. While prior studies emphasize the positive role of IK in enhancing authenticity and sustainability (Carr et al., 2016; Dixit et al., 2023; Shrestha et al., 2024), this study demonstrates that IK is most effective when tourists actively engage in indigenous agricultural practices rather than passively consuming IK based products. The weak or negative effect of tourism products on satisfaction supports recent concerns that over commodification or limited interpretation of IK can dilute perceived authenticity (Higgins-Desbiolles, 2016; Dai Tuyen & Noseworthy, 2023). Importantly, the moderating role of perceived value confirms emerging literature highlighting that satisfaction in indigenous tourism contexts depends not only on product quality but on tourists' emotional, cultural, and experiential valuation of IK based experiences (Zhang et al., 2023; Lin et al., 2023).

This suggests that participatory authenticity and value co creation are central mechanisms through which IK contributes to sustainable agritourism development.

The findings revealed that IK significantly positively directly affects the attractiveness of a TA destination (H1). IK can significantly enhance the attractiveness of a tourist destination by providing unique experiences, promoting sustainable practices, inspiring unique offerings, and fostering meaningful community engagement. This finding are close to the research carried out by Kohsaka & Rogel (2021), Trung & Mohanty (2023), and Dixit et al. (2023).

IK significantly contributes to the direct enhancement of ID, TP, and PS. For infrastructure development, IK can inform the construction of facilities that honor local traditions and the environment, thereby increasing a destination's unique appeal. In tourist participation, IK offers authentic experiences that deepen engagement with local culture and environment. Regarding tourism products and services, IK inspires unique offerings, such as cultural performances or locally crafted goods, reflecting local traditions. Integrating IK into these tourism aspects fosters a richer, sustainable, and culturally sensitive experience, boosting tourist satisfaction and attracting more visitors, as supported by Gbadegesin & Adesina (2021) and Shrestha et al. (2024).

IK affect significantly influences tourist attraction through TP (H4). It is explainable because IK provides a unique and authentic experience for tourists. Tourists are often attracted to indigenous communities for their rich cultural heritage and unique traditions. Participating in these cultural activities and engaging with the local community can lead to a deeper understanding and appreciation of the indigenous culture, thereby enhancing the overall tourist experience and attraction. This close to statements of UNWTO (2021) and the findings of Trung & Mohanty (2023) of Tra Que Village.

However, IK has an insignificant indirect effect on TA via PS, ID, and TS. The indirect effect of IK on tourist attraction through ID may be negligible because infrastructure changes might not align with tourist expectations (Chang et al., 2018). Similarly, the indirect effect through PS might be limited due to difficulties in developing and marketing IK-based tourism products in Tra Que, Thanh Chiem, Cam Thanh, Thanh Đông, An My, and Cam Kim (Carr et al., 2016). The indirect effect via tourist satisfaction might be minimal because tourist satisfaction is influenced by various factors beyond IK, such as service quality, price, accessibility, safety, and personal preferences (Liao et al., 2019).

The effects of PS and TS on TA are not as strong as expected, indicating that these factors may not be as much influential in promoting TA. It is obviously that while tourism product and tourist satisfaction are important, they are just part of a complex network of factors that contribute to the

attractiveness of a tourist destination. These factors have been studied by previous authors, including of tourist expectations, perceived value, quality of service, individual differences (Chen et al., 2013), accessibility (Biswas et al., 2020) and tourist experience (Aliman et al., 2016).

The fifth hypothesis is supported partly. The finding of the negative impact of IK-based tourism products on tourist satisfaction in Tra Que Vegetable Village could be due to several reasons, such as the actual experience in these products does not meet these expectations, IK is not presented professionally or in an engaging manner, or IK-based products is being over-commercialized or exploited for tourism in Tra Que, Thanh Chiem, Cam Thanh, Thanh Đông and An My villages. These are revealed by Van Trung & Mohanty (2021) on the study of tourist satisfaction about agri-tourism.

The hypothesis seven – that the PV of tourism as a moderator positively affect to relationship between TP and TS is supported, which confirms the findings of Zhang et al. (2023). It means that PV only plays an importance role to increase TS when tourists engaged in IK-based tourism products. To increase the satisfaction level of tourists, it is necessary to enhance the perceived value of tourists via activities based on agricultural indigenous knowledge. In general, despite of difference level of influences, the hypothesis of H1, H2, H3, H4, H6 and H7 are accepted, H5 is partially accepted. The model is reliable and valid. Adjust R^2 value of 0.328 and 0.307 indicate that the model explains 32.8% of the model fit for the influence from latent variables to TA and TS respectively.

This investigation highlights the importance of TP, ID, TS, PS, and PV as key factors and intermediaries in tourism attraction and indigenous knowledge. It provides a theoretical foundation for how traditional indigenous knowledge fosters tourism growth among six primary constructs: indigenous knowledge, tourist participation, tourist satisfaction, tourist attraction, infrastructure development, products based on indigenous knowledge, and perceived value. This study addresses calls for deeper exploration of the factors shaping tourist attraction and the roles of indigenous knowledge. It aims to bridge the gap between traditional IK and the theoretical evolution of TA, PV, and TS. The findings endorse a conceptual framework and structured methodology, as proposed by various researchers (do Valle & Assaker, 2016; J. F. Hair et al., 2019). The SEM model results corroborate the identified relationships, and the reliability and validity studies confirm that the measurement tools used exhibit satisfactory reliability and validity.

Understanding the role of Indigenous Knowledge (IK) significantly enriches tourism literature by providing a unique perspective on sustainable tourism, particularly in agritourism. Traditional IK, deeply connected with local agricultural practices and cultural heritage in all six villages, enhances

tourist experiences through authenticity, cultural immersion, and sustainability. The SEM result illustrates how IK facilitates meaningful interactions between tourists and local communities, emphasizing cultural preservation and tourism growth. By merging traditional IK with modern tourism strategies, destinations like Tra Que, Thanh Dong, Thanh Chiem offer distinctive tourism products that attract tourists while promoting rural development and environmental conservation, thus contributing to sustainable tourism discourse in developing regions.

A groundbreaking aspect of this research is the discovery that perceived value moderates the relationship between tourism products and tourist satisfaction, providing deeper insights beyond simply accepting or rejecting hypotheses. While past studies often linked tourism satisfaction to product quality, this research highlights the critical role of perceived value, especially with IK-based tourism products. Empirical results show that enhancing perceived value can significantly boost satisfaction, even where product quality alone may not suffice. This suggests that increasing perceived value through cultural immersion and IK-based activities is crucial for promoting tourist satisfaction and long-term destination loyalty.

Based on the findings, it is recommended that tour operators and travel companies can tap into Indigenous Knowledge (IK) by creating culturally immersive experiences that highlight local traditions and promote sustainability, attracting eco-conscious travelers. Tourists should be encouraged to actively participate in cultural and agricultural activities with local communities, enriching their travel experiences while helping preserve indigenous heritage. For their part, indigenous communities can share traditional practices, like farming techniques and rituals, to offer authentic experiences that both preserve their culture and boost local economies. Governments and policymakers need to ensure that tourism development respects local traditions and the environment, while also supporting the promotion of IK-based tourism products to enhance the destination's appeal and increase tourist satisfaction, encouraging repeat visits.

7. Conclusion

This empirical study investigates the role and impact of indigenous knowledge on agritourism, specifically focusing on its influence on tourist attraction in six typical traditional villages around Hoi An ancient town, Vietnam. The research deepens our understanding of indigenous knowledge-based agritourism and its appeal to tourists, as well as the roles played by tourist participation, infrastructure development, indigenous knowledge-based tourism products, and tourist satisfaction. The study reveals that hypotheses H1, H2, H3, H4, H6, and H7 are fully accepted, while H5 is partially accepted. Factors such as tourist participation, infrastructure development, indigenous knowledge-based products, tourist satisfaction, and perceived value

significantly affect tourist attraction. However, the effects of indigenous knowledge-based tourism products and tourist satisfaction are not as strong as anticipated. Notably, perceived value plays a crucial role in enhancing tourist satisfaction, particularly when tourists engage with indigenous knowledge-based tourism products. In conclusion, traditional indigenous knowledge leads tourism growth in traditional villages in Hoi An. The study offers recommendations for leveraging indigenous knowledge in sustainable tourism development and acknowledges its limitations, suggesting avenues for future research.

This study makes several theoretical contributions to the literature on Indigenous Knowledge (IK) and sustainable tourism. First, it advances IK based tourism theory by empirically demonstrating the multiple pathways through which IK influences tourist attraction, particularly highlighting the mediating roles of tourist participation, infrastructure development, and perceived value. Unlike prior studies that often treat IK as a static cultural asset, this research conceptualizes IK as a dynamic, experience based mechanism embedded in daily agricultural practices. Second, the identified moderating role of perceived value enriches tourism satisfaction theory by showing that IK based tourism products affect satisfaction only when tourists perceive meaningful cultural and experiential value. This mechanism oriented perspective responds to recent calls for more nuanced, empirically grounded models explaining how indigenous knowledge contributes to destination attractiveness and sustainable tourism development.

The findings offer important practical implications for tourism stakeholders. For policymakers and local authorities, the results suggest that protecting and integrating indigenous agricultural practices into tourism planning can enhance destination attractiveness without resorting to large scale commercialization. For tourism operators, the strong role of tourist participation indicates that hands on, interactive IK based experiences are more effective than passive product offerings in enhancing attraction and satisfaction. Local communities can leverage their everyday knowledge and practices as living tourism resources, while ensuring community involvement to maintain authenticity. Additionally, enhancing tourists' perceived value through better interpretation, storytelling, and cultural explanation is essential for improving satisfaction and encouraging revisit intentions.

Despite its contributions, this study has several limitations. First, the research is based on cross sectional data collected in six villages around Hoi An, which may limit the generalizability of the findings to other regions or cultural contexts. Second, the model explains only part of the variance in tourist attraction and satisfaction, suggesting that additional factors such as service quality, destination image, or tourist motivation may also play important roles. Future research could employ longitudinal or comparative designs to examine how perceptions of IK evolve over time

and across destinations. Further studies may also incorporate qualitative approaches to better capture the meanings and interpretations tourists and local communities attach to indigenous knowledge, thereby deepening understanding of IK based tourism development.

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