



FROM CHALLENGE RECOGNITION TO STRATEGY PROPOSAL: QUALITATIVE INSIGHTS IN PROMOTING SMART TOURISTS FOR SMART TOURISM DESTINATION DEVELOPMENT IN VIETNAM

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| ARTICLE INFO | ABSTRACT |
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| <p>DOI: 10.52932/jfmr.v4i2ene.1081</p> <p><i>Received:</i> August 21, 2025</p> <p><i>Accepted:</i> January 19, 2026</p> <p><i>Published:</i> March 25, 2026</p> <p>Keywords: Development challenges; Smart tourists; Smart tourism destination; Tourist barriers; Vietnamese tourists</p> <p>JEL Codes: L83, Z32, O33</p> | <p>Smart tourism destinations have emerged as an important development orientation in Vietnam, yet the progress remains hindered by various challenges, even from tourists themselves. This study aims to uncover the challenges preventing Vietnamese tourists from actively engaging in smart tourism ecosystems, i.e., transforming themselves into “smart tourists”. Employing an expert-based qualitative research approach, semi-structured interviews were conducted with practitioners working in the tourism field to identify existential challenges to leverage practical recommendations. The drawn findings highlight four main categories of challenges: (1) disparities in technology grasp and consumption, (2) price concerns in smart travel, (3) privacy and security concerns, and (4) the complexity of technology. These challenges not only limit tourists’ willingness to engage but also raise concerns about the inclusiveness and effectiveness of current smart tourism development strategies in Vietnam. By emphasizing the central role of tourists as active stakeholders in smart tourism ecosystems and systematically identifying the barriers that inhibit their engagement, the study contributes to existing literature with a deeper understanding of tourist-related constraints in smart tourism development and offers practical implications for tourism destination managers and policymakers to cohere smart tourists and smart tourism destinations toward more inclusive and sustainable smart tourism development.</p> |

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1. Introduction

The rapid and explosive development of information communication and technology (ICT) has stimulated digital dynamics in many economic sectors through the advent of new technology-based management paradigms and models, including in tourism (Rodrigues et al., 2024). One of the most prominent and leading development tendencies is smart tourism, typically in smart tourism destinations. Despite its great tourism potential, Vietnam remains in an early stage, constrained by limitations in infrastructure, policies, innovation capacity, and collaboration capabilities among stakeholders (World Economic Forum, 2024; Hung & Khoa, 2023). With respect to stakeholder interactions, a central obstacle is attributed to tourists themselves, which is the presumed absence of “smart tourists”, a proposition that demands more robust substantiation rather than reliance on assumption (Cho, 2023; Femenia-Serra & Neuhofer, 2018). In Vietnam, a pronounced gap persists between tourists’ usage of basic technologies (e.g., online booking, online payments, or e-maps) versus their limited adoption of complex smart solutions (e.g., e-tickets, virtual assistants, or smart services) (Vietnam News, 2024). In other words, they have yet to keep pace with the evolving advances of smart tourism technologies (STTs). On top of that, the misalignment between actual conditions and tourists’ expectations has also undermined the enhancement of smart experiences (Nguyet, 2023). These imply that, given widespread digital access and the rapid growth of STTs in Vietnam, the development still presents issues in tourist and destination cohesion, necessitating research on smart tourism destinations with smart tourists at the forefront.

The development of smart tourism destinations in Vietnam is currently constrained by the limited engagement of the “smart tourists” dimension, as tourists demonstrate low

willingness to share data, create opportunities for social innovation, online interaction, co-creation, and use smart mobile devices and online services (Thanh et al., 2024). Even Gen Z, although characterized by tech-savviness, only about half feel comfortable relying on technology for travel experiences, and just 57% show interest in modern technology-based amenities and services (Dan Thanh, 2024). Conversely, a destination adopting STTs falls short of being truly smart if it is without interactive connections or instant innovation for smart tourists. Regarding issues confronting Vietnam, despite the growing interest in research on smart tourism and smart tourism destinations, the emphasis remains primarily on management capacity or tourist intention toward STTs (Van Nguyen et al., 2024; Hung & Khoa, 2023), leaving the approach to tourists as a key component largely unexplored and limiting understanding of “smart tourists” in the development of smart tourism destinations. Thanh et al. (2024) concurred with the aforementioned perspective and indicated that the absence of comprehension may be on account of its novelty. Notably, the issue demands urgent attention, as smart tourists serve as an indispensable part of the smart tourism business ecosystem with their significant contribution to the construction and development of smart destinations (Femenia-Serra et al., 2019). Although a low degree of tourists’ willingness to engage with smart ecosystems has been observed, the underlying reasons remain unclear and warrant further exploration. In addition, while direct investigations into tourists within the context of smart tourism have been conducted (Chang et al., 2024; Jeambua & Puttawong, 2022), how tourism practitioners grasp tourists’ issues remain questioned.

This study is driven by a critical question: “What factors inhibit Vietnamese tourists from actively engaging in smart tourism

ecosystems, and how can we overcome this situation?”. To address this question and bridge the existing knowledge gap, the study pursues two complementary objectives. From a theoretical standpoint, the study aims to clarify the attributes and contributions of smart tourists in the context of smart tourism destinations, thus advancing knowledge on the importance of smart tourists. Regarding the practical perspective, the study aims to uncover the challenges attributed to the reasons why tourists in Vietnam are hesitant to get involved in smart tourism ecosystems, which are significant to propose implications for the Vietnamese tourism industry. The study used a qualitative research method through personal and semi-structured interviews with participants drawn from the tourism industry and related occupations. The insights from the participants’ responses are anticipated to clarify reasons why tourists find it difficult to transform themselves into “smart tourists,” which triggers concerns and challenges for smartening tourism destinations in Vietnam. Through the information obtained, practical implications are proposed for destination managers and policymakers to promote proactive and active participation of tourists for the goal of inclusive smart tourism destinations. Accordingly, the study is constructed through reviewing relevant literature, exploring the challenges surrounding smart tourists in Vietnam, and finally proposing practical implications.

2. Literature review

2.1. *The evolution of the smart tourism destination concept*

The rapid development and expansion of ICT over the past few decades have witnessed its enormous applications in a variety of areas, including tourism, and therefore given rise to the term “smart tourism destination”. The concept of STD in literature has a close relationship and

is most reflected in the concept of smart cities (Ercan, 2023; Jasrotia & Gangotia, 2018; Koo et al., 2016). Nonetheless, many controversies and criticisms have popped up regarding the view that the concept of smart cities may be deficient in reflecting smart destinations (Soares et al., 2022), stemming from the complexity and fragmentation in the structure, reflecting an imbalance adhering to an understanding of smart cities (Komninos & Mora, 2018). The study agrees with the above assertion for two reasons: destinations come in multiple levels, from smaller to larger than a city (Otowicz et al., 2022), and destinations are heterogeneous as well as have distinctiveness (Truong et al., 2018). Therefore, a broader and more context-sensitive concept of smart tourism destinations is needed to reflect their spatial diversity and inherent distinctiveness.

Boes et al. (2015) defined “smart tourism destination” as one that capitalizes on available technological achievements to create co-creative supply and demand, fulfillment, and experiences for tourists, and richness for organizations and the destination itself. The concept goes further than the previous definition of e-tourism, which simply points out the use of technologies to provide information and become a part of all transactions (Buhalis, 2003). Moreover, dos Santos Júnior et al. (2017) identified four dimensions that constitute a smart tourism destination: ICT (the adoption of STTs), Innovation (how technologies shape and improve tourism activities), Accessibility (the ability to personalize service offerings), and Sustainability (efficient resource management and promotion of conscious tourism). Some destinations, such as those in Spain or Korea, can be exemplified by their remarkable success in applying technology, driven by stakeholders’ proactive engagement and attached to the pursuit of sustainability goals (Aguirre et al., 2023; Um & Chung, 2021). These highlight the

perspective that smart tourism destinations are not simply about the presence of STTs but underline the importance of integrated technology to serve as a space to connect, promote, and facilitate all interactions between stakeholders to enhance smart experiences and tourists' desired destinations via personalization and co-creation opportunities (Cavalheiro et al., 2019; Femenia-Serra et al., 2019). On top of that, the development of smart tourism destinations is regarded as important and tightly correlated with sustainable development and competitiveness (Wu et al., 2024; Shafiee et al., 2019), improving tourist experiences while ensuring living standards (Wei et al., 2024; Shafiee et al., 2021), benefits and values for the destination in management and achieving goals (Soares et al., 2022; Femenia-Serra & Ivars-Baidal, 2021; Cavalheiro et al., 2019).

2.2. The role of smart tourists

The best-known description was provided by Femenia-Serra et al. (2019), defining smart tourists as individuals who are willing to share data and have the ability to leverage ICTs to interact with other stakeholders, thereby contributing to greater perception and jointly creating smart experiences. Further to this perspective, Gajdošík (2020) characterized tourists called "smart" as those who have proficiency with ICTs, strive to seek personalized products by collaboration, and are enthusiastic about data-sharing, such as personal experiences or real-time locations. Drawing from definitions, smart tourists emerge as powerful catalysts that drive innovation by their capacity for interaction and co-creation. Compared with traditional tourists, smart tourists tend to be more familiar with the travel environment and encounter fewer language and mobility barriers, stand for more affordable budgets contrary to higher consumption levels, rely more on online platforms, and are more well-informed and accountable

for sustainability (Leung, 2022; Buhalis & Amaranggana, 2015). They are considered the core of the smart ecosystem, as they are growing more self-reliant and active, along with having higher expectations to fully meet their travel demands, such as the gravitation of adopting multi-system STTs (Panigrahy & Verma, 2025; Otowicz et al., 2022). Hence, it is inconceivable to ignore the criteria of smart tourists, since they are not only customers but also perform an indispensable part in "shaping" smart tourism destinations. These features have emphasized the association between smart tourists and smart tourism destinations, based on the smartification of the ecosystem through innovation, personalization, and interaction.

As mentioned, the differentiation of smart tourists is that they are not passively but actively engaged. Nonetheless, it cannot be assumed that tourists will "automatically" jointly co-create and enhance smart experiences. Prior to involvement, drawn from Nangpiire et al. (2022), functional facilities need to be in place, and tourists must have the capacity to utilize them; that is, they must be able to adopt the STTs. From this perspective, tourists will adopt STTs only once they are adequately aware of them as well as cognizant of the related concerns (Andrulienė et al., 2023; Femenia-Serra et al., 2019). It can be inferred that a tourist evolves into a smart tourist once they first develop awareness, proceed to actual adoption of STTs, and ultimately engage in interactions and co-creations. At the same time, data gathered from tourists is believed to be one of the most important and reliable inputs for the smart destination, as tourists are fundamentally customers of a destination. It not only contributes to increasing smart experiences but also destination-related outcomes. Three layers in a smart data system that are clarified, including collection (from providers/suppliers), exchange (transport and connection), and processing

(analysis and support decision-making), and they continuously occur in every stage of smart tourism (Lee et al., 2020). Thus, the attributes and contributions of smart tourists are simply illustrated in Appendix 1 (see Appendix 1).

3. Research method

The insufficiency of proactive engagement of tourists in smart tourism ecosystems in Vietnam has been recorded, raising questions about whether industry practitioners are fully aware of this issue. To address the research objectives, the study adopted a qualitative method and approached it using the ethnographic approach of interviewing, with the design of a semi-structured interview with open-ended questions. The purpose of this approach is to confirm the importance of smart tourists from the perspective of tourism practitioners and identify challenges that make tourists hesitant to involve themselves in the smart ecosystem (i.e., self-transforming into “smart tourists”). It was considered appropriate given the exploratory nature of the study and its focus on uncovering under-researched barriers that are perceived by tourism human resources. Thereby, practical implications are drawn to support ongoing efforts toward smart tourism destination development in Vietnam.

The core questionnaire consisted of open-ended questions that allowed participants to elaborate on their experiences and observations while maintaining alignment with the objectives. During the interview, flexible questions were incorporated based on the interview participants' responses, but the fundamental issue was guaranteed to be kept intact to ensure consistency and standardization. The questionnaire was divided into three parts, including:

(a) *Eliciting general understanding and assessment of smart tourism and the role of smart tourists* (e.g., “How would you describe the role

of tourists in the context of smart tourism?” and “What do you think makes tourists hesitant to involve themselves in the smart ecosystem?”);

(b) *Factors that inhibit Vietnamese tourists from actively engaging* (e.g., “Can you explain why you consider ‘this factor’ a barrier and how it influences tourists' behavioral intentions?”);

(c) *Development proposals to overcome the situation* (e.g., “From ‘the aspect’ you said, what recommendations do you have for tourism destinations in Vietnam to become smart destinations?”).

Regarding data collection, the study used the purposive sampling method, in which the sample is information-rich and willing to provide information based on their knowledge and experience. The interview participants were identified to include human resources working in the tourism sector in Vietnam, incorporating travel companies, destinations, hotels, and restaurants, as well as tourism researchers and related occupations. Tourists were not directly interviewed, as the study strives to explore practitioners' perspectives that are directly involved in service provision and frequent interactions with tourists, with the ability to observe both destination-side practices and tourists' behaviors in a relatively objective manner. This expert-based approach has been widely adopted in exploratory qualitative studies where the research objective focuses on systemic and behavioral barriers rather than individual experiences. According to Townsend's (2013) overview, a semi-structured or in-depth interview requires a minimum sample of 5. For this study, we successfully contacted 10 participants working in the tourism and relevant sectors, yet 2 individuals withdrew, and thus the number of formal participants interviewed was 8 in total (Table 1). After consulting with two other professors from two different affiliations, and some directions from prior studies (Sim et al., 2018;

Malterud et al., 2016), the authors consider that the sample size can be adequate to address the study's objectives and intended contributions. Lastly, all participants were assured that the information they shared was completely voluntary and would be kept confidential, and provided information will only be used for research purposes, and participants had the right to refuse if they did not agree and did not want to continue the interview.

All the interviews were conducted online on the Google Meet platform from 24th February to 9th April, 2025, and were recorded for easier playback, review, and extraction of necessary or missing information. Regarding coding, the study adopted the inductive coding process to analyze the collected information, where codes are formed after reading through the data rather than being forced into what the interviewer defaults to. The data analysis procedure followed the thematic synthesis

approach adapted from Nangpiire et al. (2022), encompassing familiarization with the data, code generation, theme identification and review, theme naming, and final report production. The researchers directly collect and analyze the data, with reflective notes being used, and the data encoding was agreed upon by all authors to enhance the inter-coder reliability and consistency of the process. To enhance transparency and analytical rigor, information and coding decisions were continuously documented and confirmed by participants, and illustrative quotations were used to support each theme in the findings section. The answers were validated by being briefly reported back to the interviewee to ensure that the content and meaning were correctly understood by the interviewer. Furthermore, comparisons were constantly made after each interview, and no new code emerged after the fifth interview, somewhat reflecting saturation and possibly producing a final report.

Table 1. Interview participants

| Code | Workplace/Field | Role/Expertise | Seniority (year) | Date of interview |
|-------------|------------------------------------|-----------------------------|-------------------------|--------------------------|
| P1 | Travel agency | Tour operator, Tour guide | 5 | 24/2/2025 |
| P2 | Travel agency, Tourism destination | Tour guide | 5 | 15/3/2025 |
| P3 | Restaurant (group) | Customer service | 3 | 6/4/2025 |
| P4 | Restaurant (independent) | Marketing | 4 | 30/3/2025 |
| P5 | Hotel | Receptionist | 2 | 3/4/2025 |
| P6 | Homestay | Marketing, Customer service | 3 | 7/4/2025 |
| P7 | Media and telecommunications | Project specialist | 7 | 9/4/2025 |
| P8 | Academic | Researcher | 3 | 16/3/2025 |

4. Findings and interpretation

4.1. Confirmation of smart tourists' role

All interview participants expressed the consensus that smart tourism in Vietnam is in the development stage and is receiving more and more attention from tourism professionals, as well as being the development orientation of tourism destinations. This development remains considered not the most explosive (P1, P8), owing to a lack of synchronization and unevenness across destinations and tourism organizations (P4, P6, P8). Although the term "smart tourists" is relatively new, primarily perceived by participants as revolving around tourists' support and awareness of the pros and cons of technology (i.e., understanding and concerns), their ability to grasp and use technology (i.e., proficiency with ICTs), and their willingness to share experiences and feedback for providers (i.e., willing to share data and tech-based interaction). Compared with the foundation compiled in the literature review, the two attributes of demand for personalization and responsibility aspects (presented in Figure 1) are not mentioned.

Nonetheless, the role of tourists in the context of a smart tourism destination is undeniable. Tourists are considered the center of smart tourism activities (P3, P6) because they are customers who directly experience, evaluate, respond to, share, and operate the system with tourism operators (P1, P2, P4, P5, P6, P8), with the ultimate goal of serving to improve the experience of tourists (P3, P7). In addition, they are also viewed as "data creators and information spreaders" (P5), and "the data provided can help tourism managers improve their services" (P8). In summary, smart tourists truly contribute to promoting the digital transformation process in the tourism industry. Therefore, focusing on the central role of tourists not only helps improve the quality of smart experiences but also provides a premise

to improve services and manage destinations more effectively, as well as being a key condition to achieve sustainable development of smart tourism in Vietnam.

4.2. The challenges identified in Vietnam

Nevertheless, achieving such a desired outcome is not instinctual, given that all participants recognized various challenges regarding barriers in travel behavior or disparities between different tourist groups. During interviews, tourists were consistently assessed objectively to assess their engagement in different backgrounds or situations so that biases influenced by provider-centric assumptions were avoided. As a result, four groups of challenges that make tourists hesitate to get involved in the smart ecosystem were drawn out through the interviews and objectively arranged according to the level of magnitude in participants' discussions, including: (1) Disparities in technology grasp and consumption, (2) Price concerns in smart travel, (3) Privacy and security concerns and (4) The complexity of technology. Statements provided by participants are quoted in-text directly, and it can be drawn that the challenges mainly arise in the awareness stage, and to a lesser extent, at the adoption stage. Accordingly, the findings' summary is shown in Appendix 2 (see Appendix 2).

(1) Disparities in technology grasp and consumption

The disparities were identified across a wide range of tourist groups, with the reporting at age (P1, P3, P4, P5, P6, P7, P8), income (P2, P4, P5, P6, P8), education level (P2, P6), and places of residence (P2, P3). The main explanations surrounding their familiarity, knowledge, access, usage trends with smart technology, and ability to pay for smart services or STTs are not the same. In terms of age, older age groups showed more difficulty in grasping because they are: "slower in accessing such information

as well as getting used to digital technology like young people” (P1), and “often lack confidence in using technology” (P3). Besides, there is an admission that the older generation “have a different way of using the Internet; they don’t know how to achieve it, and I have to admit that they have a pretty low acceptance of technology”. According to this vein, the most noteworthy explanation is:

“As for older people like our grandparents and parents, they have less interaction with technology, they are a bit low-tech, and they are also afraid of change and afraid of learning such technology.” (P4).

Conversely, the younger generation will be more tech-open and adaptable because they: “grasp technology faster and have fewer psychological barriers” (P3), “are familiar with using technology in their daily lives” (P5), and “tend to look for new and unique things because they are very active as they live in the technology era” (P8).

Regarding income, participants agreed that higher income groups are perceived to have sufficient financial resources to meet higher demands and are more likely to be willing to pay for them. It includes: “the fact that you have a good income makes it easier for you to be comfortable with higher needs” (P2), and “when tourists’ income is higher, they will be willing to pay for using additional technology applications during their travel”. On the other hand, lower-income tourists tend to “look for saving options and prioritize closer destinations” (P8). Therefore, one of the most notable statements is:

“For income, people with high income can afford to buy anything that makes them feel excited and happy, while people with low income may have the intention, but when the price is too high, they will return to alternatives that cost less.” (P4).

As for education level, those with higher education levels “may have knowledge about applying technology, accepting technology, and being willing to change because technology is better” (P2). In particular, educational level is considered to be closely related to income, with one very valuable observation being:

“The groups of people with high incomes are usually accompanied by a relatively high level of education. They perceive the obvious benefits of smart travel as saving time, convenience, and modernity, and they are willing to pay for services that are more expensive and beyond the free services.” (P6).

Finally, when it comes to place of residence, it was commented that tourists who come from big cities or urban areas “that have applied technology will easily get used to technology when coming to smart destinations” (P2), and “they often have easy access to technology and have the habit of using apps or e-wallets, for example, so the ability to choose a smart destination is higher” (P3). Whereas in rural areas, interviewees state that: “it is even difficult to meet traditional tourism needs; then smart tourism will be something very different” (P2), as well as “they may not have much access to technology, so they will not be too concerned or interested in this” (P3).

The responses received demonstrated that one of the foremost challenges is the disparity in tourist groups’ capacity to grasp and consume technology. Age, income, education level, and place of residence all matter to a difference in technological familiarity, as well as an impact on attitudes and behaviors toward smart tourism destinations and services. These disparities are closely linked to other barriers, as tourists with lower technological grasping/capability expressed concerns about price, privacy, and the perceived technological complexity, lowering their ability to interpret and respond to the smartification. This presents

the similarity with prior comparisons in other nations (Jeambua & Puttawong, 2022; Kara & Mkwizu, 2020), indicating that not all tourists are the same. It also suggests that technological adoption is not solely a matter of availability but is also shaped by socio-economic and cognitive factors that will influence tourists' readiness to engage with smart tourism ecosystems. Yet it is noteworthy that even young tourists have not shown enthusiasm for smart amenities and services (Dan Thanh, 2024), meaning that promoting comprehensive acceptance will become difficult due to these disparities. In other words, this unveils a challenge in designing and implementing digital solutions that are not only modern and convenient but also accessible to an extensive demographic of tourists. If providers simply focus on constructing high-tech applications while disregarding disparities, particularly among groups with limited access to technology, smart tourism initiatives are likely to suffer from imbalanced development and failure to achieve the desired outcomes. Consequently, efforts for diversifying and adapting technological solutions must occur to ensure inclusiveness.

(2) Price concerns in smart travel

The concern of price is arguably the most controversial element in the interviews, and many valuable insights are provided. Overall, most of the participants agreed that price may be a barrier that makes tourists hesitate or reduce their actual behavior regardless of previous intentions due to their limited budgets, worthiness evaluation, and consideration of spending allocation (P2, P3, P4, P5, P8). Some of the clearest explanations are listed below:

“For the general tourist groups, they have limited budgets, and even though they can use those modern technologies, the price will still make them think a lot about the worthiness, or sometimes the actual experiences at the destination are enough.” (P3).

“If the price is higher than their budget, they will definitely hesitate and may want to choose another option that is cheaper. In almost all cases, price is the factor that affects the most, followed by quality, and in my opinion, this is the case as well.” (P8).

It can be claimed that in some cases, price is even considered a priority factor. All the statements indicate that financial constraints compel many tourists to carefully evaluate the value of STTs, as many consider usual on-site experiences already satisfied. Besides, price is considered a relatively strong influencing factor because Vietnam is still a price-sensitive country, and tourists: “if they judge that this experience or that service is not worth the money, then their intention and behavior will definitely decrease” (P4), based on the mechanism that “tourists will consider whether the price they spend on using technology during their travel is commensurate with the value they receive” (P5). Many tourists also showed their hesitation: “They will demand more information, like what they will get or if anyone else has used it before” (P2). On top of that, one of the major reasons tourists consider whether to spend money on smart experiences stems from:

“Tourists will consider whether the price they spend on using technology during their travel is commensurate with the value they receive. In addition, because the costs incurred during their travel, such as food, shopping, and gifts, are quite large, they will often consider.” (P5).

Interestingly, there are also dissenting opinions, with reasons given such as: “when tourists come to a destination, they will somehow know what they will pay for” (P1), “they will be willing to pay some extra money because they see the long-term benefits and conveniences that this technology can bring in the future” (P6), or that “price is actually not a big deal unless the price is too high; if it's just a

little bit higher, then it's not a big deal in that way of traveling". (P7).

It is well-known that in order to be designated a smart tourism destination, investment in STTs is mandatory, resulting in raised costs and compelling tourists to pay more to engage. On the other hand, confusion is inevitable, and price is also an ambiguous and implicit confusion that is found, driven by the desire to find the best deal, but much information is unclear (Lu et al., 2016). The challenge comes not only from the financial investment and ICT capacity of destinations but also from tourists themselves, as they may not accept being charged more due to price sensitivity. It is important to emphasize that the integration of STTs must bring about excitement beyond the usual experiences that may already be sufficient to satisfy tourists. Their uncertainty about how STTs function or what benefits are provided can intensify cost-related doubts and increase hesitation. Though this is one of the major concerns in Vietnam, there has been insufficient prior inquiry into its intervention in the context of smart tourism. However, the consideration of price against the value of smart experiences can lead to hesitation and, in certain cases, refraining from returning when reality falls short of expectations (Yan et al., 2024). Inferring from the interviews, budgetary constraints and the weighing of profits and losses continue to have a major impact on travel behavior in Vietnam, and this reality is not limited to tourists with good technological ability. Price concerns are intertwined with tourists' technological understanding, as willingness to pay is influenced by how clearly they comprehend STTs and their expected benefits. Thus, the challenge for destination managers and policymakers is to include pricing strategies that simultaneously clearly highlight the value and practical benefits of smart tourism services.

(3) *Privacy and security concerns*

In general, all participants believed that privacy and security concerns could constitute a psychological barrier that limited visitors' capacity to accept new technologies. As participants commented: "tourists will certainly know about negative things like online scams or loss of privacy of personal information" (P1), indicating that although smart tourism has not yet reached its most explosive stage, these concerns already exist. Tourists may have a non-sharing mindset due to the fact that they are "afraid of things related to personal information disclosure, accounts, or doubts about safety" (P3). In more detail, some of the greatest comments are:

"They will have worries and concerns about whether this service will cause them to lose information or whether it will cause them financial or reputational damage." (P6).

"If a person believes that their personal information is being leaked or misused, they will be extremely skeptical when deciding whether to use it or not." (P8).

The statements all share a common point, underscoring the fear of losing personal assets and values such as personal and sensitive information, money, or reputation. In this regard, the issue is not only about technological reliability but also about the psychological confidence users need to engage with smart tourism services. Nonetheless, there are milder views that insecurity simply makes them hesitate in making a decision, but does not completely make them lose their intention to accept or adopt new technologies (P2, P5, P7). This view may stem from the fact that digital transformation is present and developing as an inevitable tendency, not just specific to a particular field or place, but comprehensive and global. However, one opinion that stands out most directly relates to generational differences, which is:

“It only affects the older generation. The positive aspects, the benefits that technology provides, currently exceed the negative aspects; therefore, if there are insecurities, it is still acceptable, but it just takes more time to consider it.” (P2).

One of the enduring challenges in advancing smart tourism destinations is the persistent psychological barrier among tourists regarding privacy and personal information security, as noted by Femenia-Serra et al. (2019). Privacy and security concerns can be claimed as an obvious aspect because, though it can bring benefits in experience, STTs may still carry risks associated with the loss or destruction of value (Kelly & Lawlor, 2021), making tourists hesitant to prioritize smart destinations. In fact, such perceptions reflect broader social attitudes toward digital risks, which extend beyond tourism itself, and this makes it unavoidable for tourism practitioners. The findings support the earlier idea that this is a matter since it can undermine visitors' behavioral intention (Chang et al., 2024). Besides, the adverse impact of these concerns on positive behavior, including tourists' sharing behavior, along with the role of fostered trust, has also been proven to be significant within the online environment in Vietnam (Minh, 2023; To & Trinh, 2021). Particularly, in the setting of increasing online fraud, cyberattacks, and information leakage incidents, the level of vigilance of tourists has also increased accordingly. Those with lower confidence in using technology tended to have more fears of privacy risks, leading to lower acceptance and behavioral intentions. Nonetheless, it is worth noting that although concerns exist, this does not completely eliminate their intention but only slows the decision-making process or increases the need to find services with transparent and reliable privacy policies. Some even argue that younger generations are less affected by this. Yet it demonstrates that, to promote tourists'

acceptance, service providers and destination managers need to focus more on policies and solutions that alleviate this concern.

(4) The complexity of technology

Despite being raised by only a few participants and not in an extensive discussion, the idea of technological complexity still offered useful insights (P3, P6, P7, P8). Participants agreed that the negative impact of this issue on the acceptance of STTs in tourism was relatively apparent, especially with older generations. As for the complexity of technology, it involves difficulty in use and difficulty in learning. Sometimes, tourists: “don't know how to use it, read it over and over but don't understand” (P7), and “feel that learning or getting used to something new is too complex” (P8). In such a situation, tourists: “will easily give up halfway and become impatient, especially when encountering errors or interfaces that are difficult to operate and confusing” (P3), or think it would be faster to: “follow the majority, i.e., if the majority of people have experienced that service, they will also do so” (P6), or “it is faster to ask locals or passersby instead of sitting around groping about something they do not know” (P8, agreed by P7) instead of spending time learning and understanding how to effectively adopt STTs. This indicates that tourists, more or less, prioritize convenience to some extent. However, over-reliance on social cues or immediate assistance may lead to inconsistent experiences among tourists; though it may be a temporary or situational solution, without proactive readiness to proficiency with STTs, they cannot be called smart tourists, and may cause e-interactions to be fragmented.

While comparatively less prominent, an important consideration in the development of smart destinations is the level of technological complexity, which can increase feelings of overload or anxiety among tourists, especially those who are older or unfamiliar with digital

applications. The study agrees with prior knowledge that the complexity of STT could reduce tourists' perceived usefulness and intention (Chen & Lin, 2022). Moreover, the study also aligns with assumptions that technological complexity constitutes one of the major causes of tourists' discomfort, which in turn significantly undermines their attitudes toward and adoption of STTs (Xu et al., 2025; Herjanto et al., 2024). When technology is not designed to be user-friendly, in addition to being easy to understand and use, the process of accessing STTs is likely to fall into disarray, causing tourists to lose patience and abandon the service midway. That is, confusion in using STTs tends to increase uncertainty and reliance on others rather than fostering independent engagement. In other words, even small usability challenges can have an adverse influence on tourists' willingness to explore and integrate STTs into their trip. Concerning disparities across groups, technological complexity may inadvertently create a digital gap. It not only reduces the effectiveness of smart tourism solutions but also degrades the overall experience at the destination. Thus, when tourists have to constantly rely on others to support them in using technology, the essence of the smart tourism experience, which emphasizes autonomy and digital interaction, cannot be guaranteed.

4.3. Practical recommendations

Compared to some international destinations (Aguirre et al., 2023; Um & Chung, 2021), tourism destinations in Vietnam are still far behind due to the insufficiency of active interaction and co-creation by tourists, i.e., an absence of smart tourists (Thanh et al., 2024; Vietnam News, 2024). In the scene where tourism is increasingly supported by advanced technologies, tourists exhibit hesitation to involve themselves confidently in the smart tourism ecosystem and still have

a non-sharing mindset due to the disparity in digital competence between tourist groups, concerns surrounding price, insecurity, and the complexity of STTs. However, responsibility should not lie solely with the tourist but should be shared by the destination. Drawing on the identified challenges and ideas from the interview participants, this study offers the following recommendations for tourism destinations in response to these obstacles:

Firstly, continuous investment in R&D: Smart tourism development is recognized to place tourists as one of the core elements, and an in-depth understanding of the characteristics and needs of tourist groups is required. Efforts need to delve into understanding the demographic characteristics and technological behavior of each tourist group. Instead of adopting a general model for all, tourism providers and destination managers need to adjust the content, approach, and complexity of digital solutions according to specific customer segments. Research should also clarify the psychological, financial, and technology-using skills barriers of tourist groups with lower accessibility, such as the elderly, low-income, or rural area residents, in order to ensure success and inclusiveness in smart tourism development.

Secondly, build a "smart pricing strategy": Developing smart tourism in Vietnam requires the high cost of investing in digital infrastructure, and if this cost is shifted to tourists, it can reduce access for a large segment of visitors, thereby hindering the goal of popularizing smart tourism on a national scale. To address this issue, destinations need to pursue a progressive and layered smart tourism development strategy. Accordingly, priority should be given to investing first in highly applicable STTs and presenting clear value to both tourists and managers (i.e., digital maps, online feedback systems, or tourism information aggregation apps). As things get

going, destinations can invest in additional items. In addition, it is possible to develop tiered service packages, including both free and paid options, to ensure equitable access without creating economic barriers.

Thirdly, ensure transparency in data management and enhance measures to protect tourists' personal information: The increase in the volume and sensitivity of data (i.e., personal information, bank accounts, real-time location, etc.) raises many concerns about privacy and even safety. To increase trust, destinations need to establish a transparent data governance mechanism in which users can know the purpose and how their personal data will be used and stored, as well as be accompanied by opt-in or opt-out options for each type of data. Beyond that, the need to actively implement communication activities to raise tourists' awareness of personal data rights is also needed in advance, through digital education campaigns or technology safety guides.

Finally, streamline processes and build on-site support: The processes of searching, registering, authenticating, paying, and other functions can be overwhelming. Thus, restructuring and streamlining the steps of the system, for example, integrating multiple functions into a single application, eliminating unnecessary intermediary steps, etc., can be considered necessary to reduce the overload on users. In parallel, destinations need to invest in on-site support to compensate for the digital skills gap between different visitor groups, which may include technical consultation centers, live support staff, or automated guidance kiosks. Especially at tourism destinations with a large number of elderly or low-tech tourists, the presence of on-site support channels will help increase accessibility and professionalism, as well as create a sense of security and friendliness in the process of interacting.

5. Conclusion

This study offers a novel contribution by shifting the analytical lens from tourists' self-reported perceptions to expert-based observations, thus capturing systemic barriers as they emerge through repeated and real-world interactions with diverse tourist groups. By viewing smart tourists at the forefront in the process of developing smart tourism destinations in Vietnam and through a qualitative research method with semi-structured interviews with experts in the tourism industry, four main groups of challenges were identified, including disparities in technology grasp and consumption, price concerns in smart travel, privacy and security concerns, and the complexity of technology. Such challenges are perceived as inhibitors, causing tourists to hesitate in shifting away from a non-sharing mindset. The study contributes theoretically by adding the perspective from the center role of smart tourists and what factors inhibit Vietnamese tourists from actively engaging in smart tourism ecosystems, which seems to be under-addressed in previous studies on smart tourism in Vietnam. On top of that, the findings also offer actionable and immediately applicable implications by suggesting directions to reduce concerns and improve the engagement of tourists in the smart tourism ecosystem, which serves as a premise for destination managers and policymakers to promote changes and initiatives related to promoting smart tourist interactions and co-creations. Nevertheless, the study is also aware of certain limitations in that the sample size remains small and the majority of the interview participants are not very senior. Therefore, future research could expand to include more experts with higher seniority, enabling more balanced and objective comparisons between traditional and smart tourism manners. Additionally, regarding methodology, an empirical interview

or investigation with the scope shifted to the tourists themselves, those who directly experience smart tourism services, is also recommended for a deeper understanding of their actual drivers and barriers in smart travel behavior, since the subject is excluded from the

current study. Future studies may also adopt a quantitative or mixed-methods approach to empirically examine and validate the relative importance and interactions among the discovered barriers.

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