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EDITED BY

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REVIEWED BY

Azyk Orozova,
Kyrgyz National Agrarian University,
Kyrgyzstan
Meylani Tuti,
Asa Indonesia University, Indonesia

*CORRESPONDENCE

Waiphot Kulachai
✉ waiphot.ku@ssru.ac.th

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TBL sustainability, perceived value, and destination image as drivers of visit intention: a sequential mediation model in Thai tourism

Adi Prasetyo Tedjakusuma^{1,2}, Waiphot Kulachai^{3*},
Patipol Homyamyen⁴ and Andri Dayarana K. Silalahi⁵

¹Department of Management, Faculty of Business and Economics, University of Surabaya, Surabaya, Indonesia, ²Department of Business Administration, College of Management, Chaoyang University of Technology, Taichung, Taiwan, ³Graduate School, Suan Sunandha Rajabhat University, Bangkok, Thailand, ⁴Faculty of Business Administration and Information Technology, Rajamangala University of Technology Suvarnabhumi, Suphanburi, Thailand, ⁵Department of Marketing and Logistics Management, College of Management, Chaoyang University of Technology, Taichung, Taiwan

Introduction: Tourism destinations must balance economic, social, and environmental sustainability, but how tourists translate these Triple Bottom Line (TBL) dimensions into visit intention remains unclear. Drawing on S-O-R theory and the hierarchical decision model, this study examines perceived value and destination image as sequential mediators between TBL sustainability and visit intention in Thai tourism.

Methods: Survey data from 427 Thai tourists with recent tourism experience were analyzed using PLS-SEM in SmartPLS 4.0 with 5,000-resample bootstrapping.

Results: Economic, social, and environmental sustainability positively predicted perceived value, although environmental sustainability had only a weak effect, with social sustainability the strongest predictor. Economic sustainability was the strongest predictor of destination image, whereas social sustainability had no significant effect and environmental sustainability showed a negative effect contrary to the hypothesized direction. Perceived value positively predicted destination image and visit intention, and destination image was the strongest direct predictor of visit intention; perceived value mediated the economic and social sustainability pathways, while destination image mediated only the economic sustainability pathway and partially mediated the perceived value–visit intention relationship, confirming the hypothesized sequential pathway.

Discussion: These results reveal a selective sequential transmission mechanism, in which each TBL dimension is routed into one or both mediators and only the value-based portion proceeds through an ordered path into destination image before shaping visit intention, extending S-O-R theory by specifying how sustainability stimuli are selectively and sequentially processed into organism-level states. As the design is cross-sectional, this sequence should be read as the structural specification best supported by the data rather than a validated temporal ordering.

KEYWORDS

destination image, economic sustainability, environmental sustainability, perceived value, social sustainability, Triple Bottom Line, visit intention

1 Introduction

Tourism remains one of the most important sectors in the global economy. Before the COVID-19 pandemic, tourism contributed around 10% to global GDP and supported approximately 10% of the global workforce (UNWTO, 2019). Thailand has built one of Asia's most successful tourism industries, welcoming more than 32.5 million international tourists in 2025 through a combination of coastal environments, cultural heritage, hospitality, and internationally recognized cuisine (The Nation Thailand, 2026). However, sustaining this achievement has become increasingly challenging. Coastal ecosystem degradation, overtourism at heritage sites, rising living costs for host communities, and the gradual homogenization of local culture have placed growing pressure on destination management. The post-pandemic recovery has intensified these pressures because tourist arrivals have returned faster than management capacity in many destinations (UNWTO, 2023). For Thai destination managers, sustainability across economic, social, and environmental dimensions is no longer a distant policy ideal. It has become an immediate operational and competitive issue. This urgency mirrors a broader shift in the field itself. Despite a rapid expansion of published research on sustainable tourism, how tourism and sustainability actually relate to one another remains an open and unsettled debate, one that the sector's own Tourism Agenda 2030 has placed at the center of the research priorities set by the field (Alonso-Muñoz et al., 2023).

Tourism sustainability is commonly organized around three pillars. The economic pillar concerns whether tourism benefits remain within host communities through fair income distribution, local employment, and support for locally owned businesses (Choi and Sirakaya, 2006). The social pillar concerns whether tourism preserves local culture, respects community values, and maintains positive host-guest relations (Inieta-Bonillo et al., 2016). The environmental pillar concerns whether destinations protect ecosystems, reduce ecological damage, encourage responsible tourist behavior, and conserve natural resources for future generations (Choi and Sirakaya, 2006; Bernini et al., 2021). Destination managers are increasingly expected to perform across all three dimensions at once, while tourists are also becoming more attentive to the sustainability consequences of their destination choices (Sanchez-Fernandez et al., 2019). What remains insufficiently understood is how tourists process each sustainability dimension psychologically and how these perceptions eventually influence visit intention.

Two psychological constructs are central to this process: perceived value and destination image. Perceived value reflects tourists' evaluation of whether the visit is worth the money, time, and effort invested (Zeithaml, 1988). Previous studies suggest that sustainability perceptions can improve tourists' value evaluations because responsible economic distribution, respect for local communities, and environmental protection may increase the perceived worth of the visit (Inieta-Bonillo et al., 2016; Gallarza and Saura, 2006). Destination image works differently. It reflects tourists' overall cognitive and affective impression of a place, including its attractiveness, reputation, and experiential appeal (Baloglu and McCleary, 1999). A sustainable destination may therefore influence tourist behavior not only by making the visit feel worthwhile, but also by shaping the broader image tourists hold of the destination. However, the relationship between perceived value and destination image in the sustainability-to-intention process remains underdeveloped, particularly when all three Triple Bottom Line dimensions are examined simultaneously.

Three gaps motivate this study. Prior studies have often examined sustainability dimensions separately, in partial combinations, or as a general sustainability construct. As a result, it remains unclear whether economic, social, and environmental sustainability influence perceived value and destination image in similar ways or through different psychological routes. In addition, many studies use either perceived value or destination image as a mediator, while fewer examine both constructs together within a sequential mechanism. This distinction matters because perceived value may not only operate alongside destination image, but may also contribute to its formation. Finally, existing S-O-R-based studies linking sustainability perceptions to tourist behavior remain concentrated in Northeast Asian or industry-specific contexts, such as South Korea and China (Bae et al., 2023; Zhang and Jung, 2025). Although Southeast Asian evidence exists (Jokom et al., 2025; Kusumawati et al., 2020), Thailand remains underexamined despite its scale as a tourism destination and the importance of its ecological, cultural, and community-based tourism assets.

To address these gaps, this study develops an integrated S-O-R model in which economic sustainability (ES), social sustainability (SS), and environmental sustainability (ENS) serve as stimulus variables. Perceived value (PV) and destination image (DI) are positioned as organism-level constructs, with PV specified as an antecedent of DI. Visit intention (VI) represents the response variable. This structure allows the study to examine whether each TBL dimension influences VI through PV, DI, or a sequential PV-to-DI pathway. Data were collected from 427 Thai tourists with recent tourism experience and analyzed using PLS-SEM in SmartPLS 4.0.

The study makes three contributions to the sustainable tourism literature. It examines the three TBL sustainability dimensions as simultaneous predictors of both perceived value and destination image, allowing clearer identification of whether the same sustainability pillars shape value formation and image formation. It also models perceived value and destination image as sequential organism-level mechanisms, thereby offering a more complete explanation of how sustainability perceptions are translated into visit intention. Finally, it provides evidence from Thailand, a major Southeast Asian destination where ecological resources, cultural heritage, and community-based tourism make the link between sustainability and tourist behavior especially relevant. Together, these contributions push against assumptions that recur across prior S-O-R and TBL applications in tourism, namely that sustainability stimuli transmit uniformly, that the three pillars carry comparable psychological weight, and that perceived value and destination image function as parallel rather than ordered mediators.

Four research questions guide the study:

RQ1: How do ES, SS, and ENS influence Thai tourists' PV and DI, and does each dimension carry a different weight across the two constructs?

RQ2: Does PV mediate the effect of each TBL dimension on VI, and do these mediating effects hold consistently or selectively across the three dimensions?

RQ3: Does DI mediate the effect of each TBL dimension on VI, and do these mediating effects hold consistently or selectively across the three dimensions?

RQ4: Does DI mediate the relationship between PV and VI, thereby supporting a sequential organism pathway in which tourists' value evaluations shape destination image before influencing visit intention?

2 Literature review

2.1 Previous studies and gaps identification

Table 1 summarizes previous studies and identifies the gaps addressed in this study. Overall, the reviewed literature indicates that no prior study has combined the three sustainability dimensions with perceived value, destination image, and visit intention in a single S-O-R model. Bae et al. (2023) showed that environmental and social ESG dimensions influenced brand trust and word-of-mouth in food and beverage tourism on Jeju Island in Korea. However, because perceived value, destination image, and visit intention were not included, the study does not explain how TBL signals translate into forward-looking behavioral dispositions. Zhang and Jung (2025) applied S-O-R to ESG in the hotel industry and found that governance and social dimensions build corporate image, while environmental and social dimensions build consumer trust, both of which predict booking intention. However, the model excludes perceived value and destination image, and booking intention is relatively transaction-specific compared with the broader motivational disposition examined in the present study.

Jafarova et al. (2026) found that all three ESG dimensions positively affect sustainable tourism development in Uzbekistan's heritage destinations. However, the study treats sustainability as an outcome of governance rather than as a tourist-level phenomenon, and it does not propose a mediating mechanism through which sustainability perceptions are translated into tourist cognition and behavior. Jokom et al. (2025) demonstrated that environmental and socio-cultural sustainability dimensions influence memorable tourist experiences, with digital technology and government support serving as moderators. However, the study does not adopt the S-O-R framework as its organizing logic and does not include perceived value, destination image, or visit intention. Kusumawati et al. (2020) showed that tourists' perceptions of sustainability positively influence word-of-mouth and revisit intention, with environmental awareness as a moderator. Yet, by treating sustainability as a single overall construct, the study cannot determine whether economic, social, and environmental sustainability have different effects on tourists' cognition and behavior.

The present study builds on these gaps by applying S-O-R as the organizing framework, with the three TBL dimensions as stimuli, perceived value and destination image as organism-level mediators, and visit intention as the response. This configuration enables the study to examine dual mediation and the sequential path from perceived value to destination image and then to visit intention in a TBL-based sustainability context. In addition, although Southeast Asian studies exist (Jokom et al., 2025; Kusumawati et al., 2020), Thailand remains under-examined in TBL-based tourist behavior research despite its scale as an international destination.

2.2 Theoretical framework

2.2.1 Stimulus-organism-response theory

The S-O-R model, originally developed in environmental psychology (Mehrabian and Russell, 1974) and later adapted to consumer behavior by Donovan and Rossiter (1982), proposes that environmental stimuli trigger cognitive and affective processing, which then leads to approach or avoidance behavioral responses. Unlike traditional attitude-behavior models, S-O-R provides a clearer causal structure by distinguishing between what the environment presents, how individuals process that environment, and the behavioral response that follows. This directional clarity explains why the framework has become widely used in tourism and consumer behavior research, particularly in studies that involve multi-stage mediation processes requiring theoretically grounded causal ordering (Rather et al., 2022; Tadjakusuma and Kulachai, 2026).

In the present study, the three sustainability dimensions of tourist destinations, namely economic, social, and environmental sustainability, are positioned at the stimulus layer. Rather than capturing abstract tourist attitudes, these dimensions represent tangible and observable destination characteristics: the visible distribution of economic benefits to the local community, the extent to which social and cultural integrity is maintained in the presence of tourists, and the level of environmental management practiced at the destination. Together, they represent the sustainability cues that tourists perceive during the destination experience.

The organism layer consists of two sequentially related internal constructs. Perceived value emerges first as tourists weigh the benefits of observed sustainability practices against the costs of their visit (Zeithaml, 1988). When sustainability cues are coherent and salient across the three dimensions, this benefit–cost appraisal is likely to become more favorable, thereby increasing perceived value. Destination image then functions as the second organism construct, reflecting the consolidated cognitive and affective representation that tourists form from accumulated destination stimuli (Baloglu and McCleary, 1999). Importantly, destination image is not shaped only by sustainability inputs, but also by prior value assessments. Tourists who perceive stronger value from a visit are more likely to form favorable destination impressions. This intra-organism sequence creates a dual-mediation structure in which sustainability stimuli are first processed through value evaluation before being incorporated into destination image.

Visit intention represents the response layer, referring to tourists' expressed likelihood of returning to or recommending the destination. Within S-O-R logic, this behavioral disposition does not arise directly from sustainability perceptions. Instead, it depends on the quality of the organism-level processing that precedes it. Sustainability practices shape behavior not through direct persuasion, but through the evaluative and representational experiences they generate for tourists. Mapping all constructs onto their S-O-R roles therefore provides a theoretical basis for interpreting both the parallel mediation effects of perceived value and destination image and the sequential pathway through which perceived value contributes to destination image before influencing visit intention.

TABLE 1 Prior research and gaps identification.

Author(s)	Research context	Variables used	Theory used	Key findings	Research gaps identified
Bae et al. (2023)	Food & beverage industry	Environmental (ENA), socio-cultural (SA), governance aspect (GA), brand trust (BT), and WOM	ESG and BT	ENA and SA affect BT. ENA and SA affect WOM. BT affects WOM	Uses ESG and BT theories, no analysis on Economic aspect, perceived value, visit intention, and destination image
Zhang and Jung (2025)	Hotel industry	Environmental (ENA), socio-cultural (SA), governance aspect (GA), corporate image (CI), consumer trust (CT), booking intention (BI), and environmental awareness (EA)	Stimulus-organism-response (S-O-R)	GA and SA affect CI. ENA and SA affect CT. CI and CT affect BI. EA moderates ENA and CI	No analysis on economic aspect, perceived value, visit intention, and destination image
Jafarova et al. (2026)	Tourism industry	Environmental (ENA), socio-cultural (SA), governance aspect (GA), sustainable tourism development (STD)	ESG theory	ENA, SA, and GA affect STD	Uses ESG theory. No analysis on economic aspect, perceived value, destination image, and visit intention
Jokom et al. (2025)	Tourism industry	Economic (EA), environmental (ENA), socio-cultural (SA), government support (GS), memorable experience, and digital technology (DT)	Memory and stakeholder theories	ENA and SA affect ME. DT moderates EA, ENA, SA and ME. GS moderates SA and ME	Uses memory and stakeholder theories. No analysis on perceived value, destination image, and visit intention
Kusumawati et al. (2020)	Tourist destination	Sustainability, WOM, revisit intention (RI), and environmental awareness (EA)	Sustainability theory	Sustainability affects WOM and RI. EA moderates Sustainability and RI	Uses sustainability theory. No specific analysis on environment, economic, and social, perceived value, destination image, and visit intention
This study	Tourist destination	Economic sustainability (ES), environmental (ENS), social (SS), perceived value (PV), destination image (DI), and visit intention (VI)	S-O-R	ES, SS, and ENS positively affected PV, although ENS showed only a weak effect. ES positively affected DI, whereas SS did not significantly affect DI and ENS showed a negative effect contrary to the hypothesized direction. PV and DI positively affected VI, with DI emerging as the strongest direct predictor. Mediation analysis showed that PV mediated the ES → VI and SS → VI relationships, but not the ENS → VI relationship. DI mediated only the ES → VI relationship. The PV → DI → VI pathway was also supported, confirming a sequential organism mechanism.	No prior study has simultaneously modelled all three TBL dimensions as predictors of both PV and DI within a unified S-O-R framework with serial dual mediation

2.2.2 Hierarchical decision model and the formation of destination image

While S-O-R offers a general account of how sustainability stimuli are processed into internal states and behavioral responses, it does not, on its own, explain why destination image specifically behaves the way it does once formed. Because destination image is a central construct in this study rather than an incidental mediator, its own theoretical lineage warrants direct engagement. Destination image research has long positioned image as a hierarchical driver of tourist evaluation and behavior, showing that the congruity between a tourist's destination image and subsequent experience shapes downstream outcomes such as satisfaction and future behavioral intention (Chon, 1992). This body of work treats destination image not as a single undifferentiated organism-level construct, but as an evaluative structure, combining cognitive belief and affective impression, that shapes behavior once formed, a structure later formalized explicitly as the hierarchical decision model (HDM) in tourism and consumer research. Recent applications of HDM outside tourism's traditional image-formation literature demonstrate the same logic in adjacent contexts. Frías Jamilena et al. (2017) apply HDM to show how value creation builds consumer based destination brand equity through this cognitive-affective-conative sequence, while Ertz et al. (2021) draw explicitly on HDM to explain how an external image source, Turkish television dramas, shapes country and destination image and subsequently increases visit intention, a mechanism structurally analogous to the sustainability cue to destination image to visit intention pathway modeled in the present study. Tosun et al. (2025) examine the closely related case of TV series and visit intention using a complementary lens, parasocial relationship theory and the meaning transfer model, reinforcing from a different theoretical angle that media-conveyed image cues translate into destination-related behavioral intention through the same broad cognitive-to-conative logic.

The present measurement of destination image reflects this hierarchical structure directly. Items referencing climate and landscape correspond to the cognitive component, capturing tourists' attribute based beliefs about the destination, the item referencing pleasant and attractive experiences captures the affective component, and the item referencing destination reputation reflects the evaluative judgment that consolidates both into a global image. HDM's logic therefore complements rather than duplicates the S-O-R framework used elsewhere in this study. S-O-R specifies the broader stimulus to organism to response structure that explains why sustainability cues are processed sequentially through perceived value and destination image before shaping behavior, while HDM specifies the internal architecture of the image construct itself, explaining why, once formed through cognitive-affective evaluation, destination image functions as a strong conative driver of visit intention. This convergence provides an additional theoretical basis, independent of S-O-R, for why destination image emerges in the results as the strongest direct predictor of visit intention, since HDM treats this image to intention link as a central and well established behavioral outcome rather than as an incidental finding.

2.3 Hypothesis development

2.3.1 Economic, social, and environmental sustainability and perceived value

The three dimensions of the Triple Bottom Line framework, namely economic, social, and environmental sustainability

(Elkington, 1997), each contribute to tourists' perceived value through distinct benefit pathways. Perceived value, as defined by Zeithaml (1988), reflects consumers' overall judgement of what a product or experience delivers relative to what it costs in money, time, and effort. This construct is widely treated as multidimensional in tourism because visitors evaluate functional, emotional, social, and context-specific benefits when judging the worth of an experience (Eid and El-Gohary, 2015). All three sustainability dimensions may contribute to this assessment, but through different types of benefits. Economic sustainability, which includes fair benefit distribution, support for local entrepreneurship, and secure employment opportunities for local residents (Choi and Sirakaya, 2006), provides an ethical benefit. Tourists in Thailand can often observe whether vendors, guides, and service providers are locally embedded or whether tourism benefits appear to be captured mainly by external operators. When tourism benefits are perceived to flow back into the local community through decent pay, local ownership, and entrepreneurial opportunities, the visit gains a social and ethical value that extends beyond the intrinsic appeal of the destination itself. Social sustainability works differently because its benefit is primarily experiential rather than institutional. When tourists perceive that local traditions have survived tourism pressure rather than being staged for tourist consumption, and that residents engage with visitors genuinely rather than only commercially, the visit gains a relational and cultural quality that aligns with the social and experiential dimensions of perceived value (Zeithaml, 1988; Iniesta-Bonillo et al., 2016).

Environmental sustainability, meanwhile, is especially important as a functional benefit in destinations such as Thailand, where the natural landscape is often a central attraction. Preserved beaches, forests, and biodiversity are not additional benefits, but core elements of the tourism experience for many visitors. When environmental management is effective, visitors receive one of the primary benefits of the visit; when it is absent, the core experience may be weakened regardless of other destination attributes (Choi and Sirakaya, 2006; Bernini et al., 2021). This argument is consistent with nature-based tourism research showing that perceived value is closely connected to tourists' experiential evaluations and subsequent loyalty-related responses in ecotourism settings (Kim and Thapa, 2018). The empirical record supports these pathways. Iniesta-Bonillo et al. (2016) showed that economic and socio-cultural sustainability perceptions directly increased tourists' value assessments across two destination samples. Gallarza and Saura (2006) demonstrated that social value, alongside other experiential dimensions, forms part of perceived value in their eight-dimension model. Sanchez-Fernandez et al. (2019) showed that sustainability perceptions across dimensions systematically influenced destination evaluation by market segment, while Bernini et al. (2021) and Pham and Khanh (2021) found that environmental quality perceptions were among the strongest predictors of positive visit evaluations in ecotourism destinations.

H1a: Economic sustainability has a significant positive effect on perceived value.

H1b: Social sustainability has a significant positive effect on perceived value.

H1c: Environmental sustainability has a significant positive effect on perceived value.

2.3.2 Economic, social, and environmental sustainability and destination image

Destination image, as explained by [Baloglu and McCleary \(1999\)](#), is a composite construct involving cognitive beliefs about destination offerings, affective feelings toward the place, and symbolic cues that convey meaning to visitors. The sustainability dimensions may affect different layers of this image. Economic sustainability functions more as an indicator of destination management quality than as a physical characteristic. When tourists perceive that tourism revenue flows back to the local economy rather than leaking to external operators, the destination may be viewed as well-governed and responsibly managed, which strengthens its overall image beyond physical attributes alone. Social sustainability, by contrast, is more closely related to affective experience. Interactions with hosts, perceptions of cultural vitality, and the extent to which residents appear comfortable with tourism can shape how warmly tourists feel toward the destination and how distinctive they perceive it to be. In Thailand, where distinctiveness and authenticity are central to the international tourism image, socially sustainable destinations may be perceived differently from destinations that prioritize standardized hospitality over local character. Environmental sustainability contributes to the cognitive layer of destination image because tourists who observe environmental management and conservation may develop stronger beliefs about the destination's long-term quality and reliability. Prior evidence generally supports these image-related pathways. [Stylianidis et al. \(2014\)](#) showed that perceived economic, socio-cultural, and environmental tourism impacts are linked to place image and support for tourism development, while [Bae et al. \(2023\)](#) found that ESG practices, especially environmental and social dimensions, strengthened destination brand impressions among tourists. [Chi and Qu \(2008\)](#) showed that the social and relational quality of destination interactions significantly predicted overall destination image in their integrated model. [Pham and Khanh \(2021\)](#) found that socio-cultural and environmental sustainability perceptions independently shaped ecotourism visitors' destination impressions, while [Bernini et al. \(2021\)](#) showed that sustainability-sensitive tourists formed more favorable destination evaluations when ecological practices were visible.

H2a: Economic sustainability has a significant positive effect on destination image.

H2b: Social sustainability has a significant positive effect on destination image.

H2c: Environmental sustainability has a significant positive effect on destination image.

2.3.3 Perceived value, destination image, and visit intention

Within S-O-R logic, the organism layer is not a single processing stage, but a sequence in which earlier evaluations inform later and more holistic impressions ([Mehrabian and Russell, 1974](#)). Perceived value is positioned upstream of destination image in this sequence. When tourists leave a destination feeling that the visit was worth the money and effort, this evaluation becomes part of how they think about the destination overall. It contributes to a warmer and more coherent destination impression than would be formed from physical attributes alone. [Chi and Qu \(2008\)](#) captured this process in a structural loyalty model where

attribute-level evaluations progressively shaped destination image, while [Chen and Tsai \(2007\)](#) similarly found that evaluative assessments of destination attributes directly and positively shaped tourists' holistic destination image. More recent destination image research also confirms that cognitive, affective, and overall image components are important for explaining tourists' future behavioral responses ([Stylianidis et al., 2017](#)).

H3a: Perceived value has a significant positive effect on destination image.

Visit intention refers to a tourist's likelihood or willingness to visit a particular destination in the future ([Chen and Tsai, 2007](#); [Tedjakusuma et al., 2025](#); [Zeithaml et al., 1996](#)). [Zeithaml et al. \(1996\)](#) showed that favorable value perceptions translate into stronger behavioral intentions because they increase consumers' confidence that a future investment would be justified. For tourists considering whether to return to Thailand, a trip that requires financial cost and planning effort, a prior visit that delivered what it promised provides a concrete reason to revisit. The value experience reduces the perceived risk of returning and strengthens the belief that the destination is worth future commitment. [Iniesta-Bonillo et al. \(2016\)](#) found perceived value to be a direct and robust predictor of visit intention across two European destination samples, while [Gallarza and Saura \(2006\)](#) established that perceived value explained substantial independent variance in tourist behavioral outcomes within their integrated chain model.

H3b: Perceived value has a significant positive effect on visit intention.

2.3.4 Destination image and visit intention

Destination image occupies a downstream position in the S-O-R organism layer, consolidating sustainability signals and value assessments into a unified mental representation that guides tourists' future decisions. A positive destination image does more than reflect a good experience. It reduces uncertainty about returning, maintains emotional connection to the place, and gives tourists a meaningful basis for recommendation. Together, these effects increase the likelihood of return and recommendation beyond what visit satisfaction alone may produce. [Chi and Qu \(2008\)](#) found destination image to be among the strongest structural predictors of tourist loyalty intentions in their integrated model of attributes, image, satisfaction, and revisit behavior. [Afshardoost and Eshaghi \(2020\)](#) further confirmed that destination image plays a consistent and significant role in predicting tourist behavioral intentions across different destination types and image dimensions. This pathway is also consistent with the hierarchical decision model, which treats the transition from a consolidated destination image to behavioral intention as its central conative outcome ([Chon, 1992](#)).

H4: Destination image has a significant positive effect on visit intention.

2.3.5 Mediating role of perceived value between TBL dimensions and visit intention

A core principle of S-O-R theory is that environmental stimuli do not directly evoke behavioral responses; rather, they operate

through internal processing mechanisms (Mehrabian and Russell, 1974). Thus, when tourists encounter economically, socially, and environmentally sustainable destinations, they do not automatically translate those observations into a decision to return. They first evaluate whether the visit was worth the cost, and this value assessment becomes a key driver of behavior. A destination may practice commendable sustainability, but those practices may not strengthen visit intention if tourists do not experience them as adding value to the visit. Iniesta-Bonillo et al. (2016) found evidence of this mediation in a European context, where perceived value carried the relationship between sustainability perceptions and tourist satisfaction across two destination samples. Gallarza and Saura (2006) provide complementary support, showing that perceived value was the central construct through which destination attributes influenced tourist behavioral outcomes in their quality-value-satisfaction-loyalty model.

H5a: Perceived value mediates the relationship between economic sustainability and visit intention.

H5b: Perceived value mediates the relationship between social sustainability and visit intention.

H5c: Perceived value mediates the relationship between environmental sustainability and visit intention.

2.3.6 Mediating role of destination image between TBL dimensions and visit intention

Destination image offers another route from sustainability to visit intention, one that works through reputation rather than experienced benefit alone. When tourists notice that a destination manages its tourism economy fairly or preserves cultural traditions, these observations can shape how they perceive the destination as a whole, not only whether a specific trip was worthwhile. This broader impression of a responsible and well-managed destination may increase intentions to return beyond what the value pathway alone explains. The distinction is important because sustainability practices may influence visit intention through two psychologically different mechanisms: what they add to the visitor experience and what they communicate about the destination's character. Bae et al. (2023) found that sustainability-driven brand impressions independently predicted tourist behavioral outcomes in a food and beverage tourism context, while Zhang and Jung (2025) showed that corporate image mediated the path from ESG practices to booking intentions in a hotel industry structural model. The present study extends this logic to the TBL destination sustainability context.

H6a: Destination image mediates the relationship between economic sustainability and visit intention.

H6b: Destination image mediates the relationship between social sustainability and visit intention.

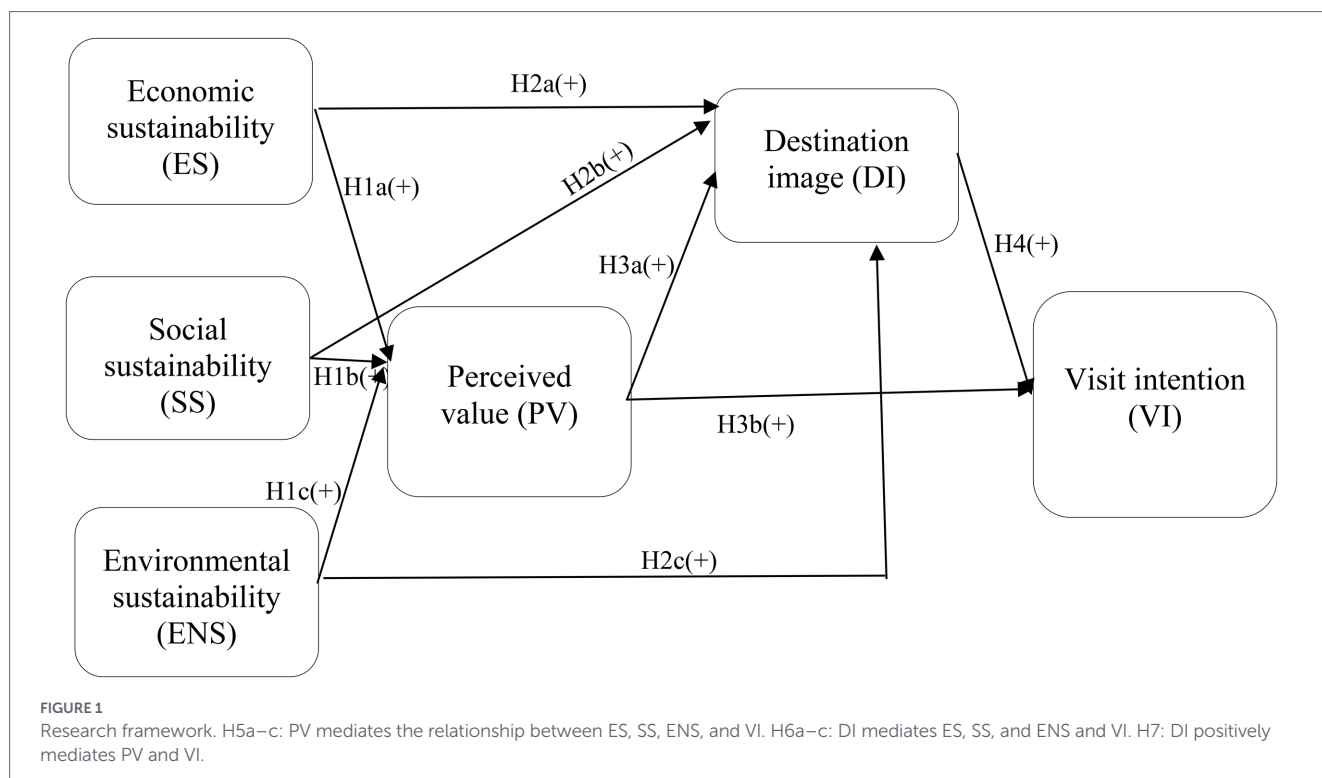
H6c: Destination image mediates the relationship between environmental sustainability and visit intention.

2.3.7 Sequential mediation of perceived value and destination image

Anderson's (1981) information integration theory suggests that people do not act on raw perceptual inputs directly. Instead, they consolidate lower-order evaluations into broader representations before those representations guide behavior. This consolidation process gives the present model its sequential character. Perceived value and destination image are not treated as two disconnected pathways from sustainability to visit intention. Rather, they are theoretically linked. A tourist's judgement that the visit was worth the investment contributes to the overall impression of the destination. In this sense, knowing that the trip delivered value becomes part of why the destination feels worth returning to. This implies a serial chain from TBL perceptions to perceived value, then to destination image, and finally to visit intention, while still allowing each mediator to carry independent effects. Chi and Qu (2008) found a structurally similar progressive sequence in their integrated loyalty model, where evaluative quality shaped destination image before influencing loyalty outcomes. Gallarza and Saura (2006) also positioned perceived value as an upstream construct in the chain leading to tourist behavioral responses. Most recently, Tedjakusuma and Kulachai (2026) documented an analogous cognitive-to-affective sequence in AI-assisted tourism decision-making, where decision confidence consolidated into destination emotion before jointly shaping tourist satisfaction, indicating that this consolidation logic extends beyond the sustainability context examined here.

This ordering is not the only one theory could support, and two alternatives deserve explicit consideration before it is adopted. One alternative treats destination image as antecedent to perceived value, on the reasoning that tourists often arrive with an image already formed from marketing content, prior visits, or word of mouth, against which they subsequently judge whether the trip was worth its cost. This ordering fits research on destination choice and pre-visit intention, where image indeed tends to precede value judgement. It fits the present model less well, because respondents in this study report their perceptions after living through the sustainability related experiences being tested, at which point perceived value functions as a transaction specific evaluation of what was just consumed, while destination image functions as the broader, still updating impression that this evaluation feeds into, consistent with the direction Anderson's (1981) hierarchy runs from specific to general. A second alternative treats perceived value and destination image as parallel mediators with no causal link between them, which is how several sustainability focused tourism models have proceeded. This specification is defensible as a simpler baseline, but it implies that a tourist's judgement of whether the visit was worth the cost and their broader impression of the destination form independently of one another, which sits uneasily with information integration theory's central claim that lower order evaluations are consolidated into higher order representations rather than generated side by side. The sequential specification is therefore adopted because it is the ordering that this consolidation logic predicts, not because it is the only ordering that could be fitted to the data.

H7: Destination image mediates the relationship between perceived value and visit intention, forming a sequential mediation chain from TBL dimensions through perceived value to destination image and onward to visit intention. Figure 1 shows this study's research framework.



3 Methodology

3.1 Research design and measurement

A quantitative cross-sectional survey design was used to examine how economic sustainability (ES), social sustainability (SS), and environmental sustainability (ENS) influence perceived value (PV), destination image (DI), and visit intention (VI). This design was appropriate because the study is prediction-oriented and captures tourists' perceptions and behavioral intentions at a single point in time (Hair et al., 2022). All constructs were measured as self-reported perceptual variables using multi-item reflective scales adapted from established tourism, sustainability, and marketing studies, yielding 22 items in total, four each for ES, ENS, PV, and DI and three each for SS and VI, with wording revised to reference the specific destination each respondent had in mind rather than a generic hospitality or retail context. Responses were recorded on a seven-point Likert scale (1 = strongly disagree; 7 = strongly agree). Because data collection targeted Thai tourists, the questionnaire was rendered into Thai using a translation and back-translation procedure to preserve semantic equivalence with the original English items, and the Thai version was pilot tested with 30 respondents before full data collection to assess item clarity and response behavior; no items required removal or rewording following this pretest, and all items proceeded to the main survey as originally adapted, with measurement items and sources reported in Table 2.

3.2 Sampling and data collection

The target population comprised Thai nationals who had visited at least one domestic or international tourist destination within the 12 months preceding the survey. A purposive, criterion-based sampling approach was used because the study required

respondents with recent and relevant tourism experience rather than a general population sample (Etikan et al., 2016). Eligible respondents also had to have observed or experienced at least one sustainability-related aspect of the destination, covering economic, social, or environmental dimensions. Screening questions ensured that only qualified respondents completed the questionnaire. Data were collected through a self-administered Google Forms survey distributed via Instagram, LINE, Facebook, and WhatsApp, consistent with digital-era tourism survey practice (Hlee et al., 2018). Data collection lasted 8 weeks, from January to February 2026, and yielded 427 usable responses. The sampling procedure imposed several restrictions that warrant explicit discussion rather than remaining implicit in the eligibility criteria. First, only Thai nationals were eligible, so the sample speaks to domestic tourists' sustainability perceptions and does not extend to how international visitors evaluate the same destinations. Second, the 12 month recency window kept sustainability related recollections reasonably fresh but excluded tourists whose most relevant experience fell outside that window, which may underrepresent infrequent travelers. Third, requiring that respondents had already observed or experienced at least one sustainability related aspect of the destination deliberately weighted the sample toward tourists already attentive to sustainability cues, which likely inflates the salience of TBL dimensions relative to a general tourist population that includes many who never notice such cues. Fourth, because recruitment relied on Instagram, LINE, Facebook, and WhatsApp rather than a formal sampling frame, the sample is restricted to tourists active on these platforms and reachable through the research team's networks, skewing it toward digitally connected, socially networked individuals and away from tourists with limited social media use. Together these restrictions mean the findings should be read as representing sustainability attentive, digitally active Thai tourists rather than the general Thai traveling public.

TABLE 2 Operationalization and measurement items.

Constructs	Operationalization	Measurement items	Authors
Economic sustainability (ES)	Tourists' perception of the degree to which tourism at the destination generates fair economic benefits for local communities, supports local businesses, and contributes to the long-term economic wellbeing of the host population.	ES1: Tourism at this destination contributes positively to the economic wellbeing of local residents.	Choi and Sirakaya (2006), Iniesta-Bonillo et al. (2016), and Sanchez-Fernandez et al. (2019)
		ES2: This destination supports local businesses and entrepreneurs through tourism.	
		ES3: The economic benefits from tourism at this destination are distributed fairly among local people.	
		ES4: This destination creates meaningful employment opportunities for local residents through tourism.	
Social sustainability (SS)	The degree to which tourists perceive that tourism at the destination preserves local cultural heritage, respects community values, and maintains positive relationships between tourists and host communities.	SS1: This destination actively preserves its local culture and traditions through tourism.	Choi and Sirakaya (2006), Iniesta-Bonillo et al. (2016), and Sanchez-Fernandez et al. (2019)
		SS2: Tourism at this destination respects the social values and way of life of local residents.	
		SS3: This destination maintains positive and respectful interactions between tourists and the local community.	
Environmental sustainability (ENS)	Tourists' perception of the degree to which the destination actively protects its natural environment, minimizes ecological damage from tourism, promotes responsible environmental behavior among visitors, and conserves natural resources for future generations.	ENV1: This destination takes visible and effective measures to protect its natural environment.	Bernini et al. (2021), Choi and Sirakaya (2006), and Iniesta-Bonillo et al. (2016)
		ENV2: Tourism at this destination is managed in a way that minimizes damage to the local ecosystem.	
		ENV3: This destination encourages tourists to behave in an environmentally responsible way.	
		ENV4: This destination makes clear efforts to reduce pollution and waste generated by tourism activities.	
Perceived value (PV)	A tourist's holistic assessment of the overall utility of visiting the destination, reflecting the perceived trade-off between the benefits received and the resources expended (money, time, and effort).	PV1: Considering the money I spent, it is worth visiting this destination.	Gallarza and Saura (2006), Iniesta-Bonillo et al. (2016), and Zeithaml (1988)
		PV2: Considering the time I spent, it is worth visiting this destination.	
		PV3: Considering the effort I made, it is worth visiting this destination.	
		PV4: Overall, it is worth visiting this destination.	
Destination image (DI)	The overall cognitive and affective impressions a person holds of a place	DI1: This destination has a good climate	Baloglu and McCleary (1999), Chi and Qu (2008), Pham and Khanh (2021), and Tedjakusuma et al. (2025)
		DI2: This destination has beautiful landscape	
		DI3: I associate this destination with pleasant and attractive experiences.	
		DI4: This destination has a good reputation of a destination	

(Continued)

TABLE 2 (Continued)

Constructs	Operationalization	Measurement items	Authors
Visit intention (VI)	The likelihood or willingness of a person to visit a particular destination	VI1: I plan to visit this destination in the future.	Chen and Tsai (2007), Tedjakusuma et al. (2025), and Zeithaml et al. (1996)
		VI2: I am willing to visit this destination in the future	
		VI3: I intend to visit this destination in the future	

3.3 Common method bias

Since all constructs were self-reported from a single source at one time point, the authors addressed common method bias (CMB) through procedural and statistical controls (Podsakoff et al., 2003). Procedurally, respondent anonymity was guaranteed, item wording was kept plain and unambiguous, and demographic items were placed before construct measures to create psychological distance between predictor and criterion variables. Statistically, CMB was diagnosed via Kock's (2015) full-collinearity VIF approach, which flags concern when any inner VIF exceeds 3.3. This approach was selected over the more traditional Harman single-factor test because full-collinearity VIF evaluates both vertical collinearity among predictors and lateral collinearity between predictors and the criterion construct, a source of bias that single-factor tests cannot detect and that has been shown to distort variance-based SEM results even when standard validity and reliability criteria are satisfied (Kock and Lynn, 2012). Because the test is diagnosed at the level of every predictor-criterion pair in the structural model rather than from a single omnibus factor, a model can only pass it if collinearity remains low across the full set of inner relationships, not merely on average, which makes it a more conservative and comprehensive check than the alternative it replaces.

3.4 Analysis technique

Partial Least Squares Structural Equation Modelling (PLS-SEM) in SmartPLS 4.0 was used for hypothesis testing (Ringle et al., 2022). PLS-SEM was appropriate because the model is prediction-oriented, includes multiple endogenous constructs and mediation paths, and can accommodate potentially non-normal behavioral survey data (Hair et al., 2019; Hair et al., 2022). Following Hair et al. (2022), the analysis was conducted in two stages: assessment of the outer measurement model followed by evaluation of the inner structural model.

3.4.1 Measurement model evaluation

The outer measurement model was assessed using indicator reliability, internal consistency, convergent validity, and discriminant validity. Indicator reliability was evaluated through standardised outer loadings, with 0.70 used as the minimum threshold (Hair et al., 2022). Internal consistency was assessed using Cronbach's Alpha (CA) and Composite Reliability (CR), with values of 0.70 or above considered acceptable. Convergent validity was examined using Average Variance Extracted (AVE), with values above 0.50 indicating that a construct explains more variance in its indicators than measurement error (Fornell and Larcker, 1981).

Discriminant validity was evaluated using the Fornell–Larcker criterion, HTMT ratios, and cross-loadings. The Fornell–Larcker

criterion requires each construct's square root of AVE to exceed its correlations with other constructs. HTMT values below 0.90 indicate acceptable discriminant validity, while values below 0.85 provide stricter evidence (Henseler et al., 2015). Cross-loadings were inspected to confirm that each indicator loaded highest on its assigned construct.

3.4.2 Structural model evaluation

Before estimating the structural paths, inner model collinearity was assessed using Variance Inflation Factors (VIFs). Path significance was tested through 5,000-resample bootstrapping with a two-tailed test at $p < 0.05$ (Hair et al., 2022). Model explanatory power was evaluated using R^2 , with values above 0.10 considered meaningful (Falk and Miller, 1992), while f^2 values of 0.02, 0.15, and 0.35 indicated small, medium, and large effects (Cohen, 1988). Overall model fit was assessed using SRMR, with values below 0.12 considered acceptable in PLS-SEM applications (Henseler et al., 2015). Predictive relevance was examined using PLSpredict with 10-fold cross-validation.

4 Results

4.1 Sample characteristics

The analytical sample comprised 427 valid responses. Males accounted for 56.21% of the sample and females 43.79%. Most respondents were married (65.34%), while 34.66% were single. The largest age group was 31–40 years (36.53%), followed by 41–50 years (31.38%), 20–30 years (24.59%), and 51 years and above (7.49%), indicating that the sample was mainly composed of working-age tourists. Bachelor's degree holders represented the largest educational group (42.86%), followed by respondents with high school graduates or equivalent (22.48%). In terms of occupation, corporate employees formed the largest group (39.11%), followed by public institution employees (30.91%), students (20.14%), and entrepreneurs (9.84%). Overall, the sample reflects a diverse and relatively well-educated tourist population capable of assessing destination sustainability. Table 3 presents the sample demographics.

4.2 Measurement model assessment

Table 4 shows that all indicator loadings exceeded the 0.70 threshold (Hair et al., 2022). CA and CR values were above 0.70 for all constructs, and AVE values exceeded 0.50 across the six constructs, supporting satisfactory convergent validity. Discriminant validity was assessed using the Fornell–Larcker criterion, HTMT ratios, and cross-loadings. As shown in Table 5, the Fornell–Larcker

TABLE 3 Sample demographics.

Measure	Items	Frequency	Percentage
Gender	Female	187	43.79%
	Male	240	56.21%
Marital status	Single	148	34.66%
	Married	279	65.34%
Age group	20–30 years	105	24.59%
	31–40 years	156	36.53%
	41–50 years	134	31.38%
	51 and older	32	7.49%
Education	High school and equivalent	96	22.48%
	College Diploma	71	16.63%
	Bachelor	183	42.86%
	Master's and above	77	18.03%
Profession	Students	51	11.94%
	Public institution employees	124	29.04%
	Entrepreneurs	42	9.84%
	Corporate employees	147	34.43%

TABLE 4 Convergent validity and reliability.

Constructs	Items	FL	CA	CR	AVE
Destination image (DI)	DI1	0.828			
	DI2	0.822	0.819	0.878	0.643
	DI3	0.785			
	DI4	0.771			
	ENS1	0.842			
Environmental sustainability (ENS)	ENS2	0.878	0.740	0.853	0.661
	ENS3	0.709			
Economic sustainability (ES)	ES1	0.873	0.774	0.897	0.813
	ES2	0.929			
	PV1	0.704			
Perceived value (PV)	PV2	0.808	0.750	0.842	0.571
	PV3	0.737			
	PV4	0.770			
	SS1	0.793			
Social sustainability (SS)	SS2	0.924	0.819	0.893	0.736
	SS3	0.851			
	VI1	0.845			
Visit intention (VI)	VI2	0.778	0.705	0.832	0.623
	VI3	0.741			

FL, Factor Loading ≥ 0.7 ; CA, Cronbach's Alpha ≥ 0.7 ; CR, Composite Reliability ≥ 0.7 ; AVE, Average Variance Extracted ≥ 0.5 .

criterion was met because the square root of each AVE exceeded the corresponding inter-construct correlations. HTMT ratios were below 0.90 for all construct pairs (Henseler et al., 2015), and the cross-loadings in Table 6 confirmed that each indicator loaded highest on its assigned construct. These results support adequate discriminant validity.

4.3 Structural model

All inner VIF values were below 3.3 (Kock, 2015), ranging from 1.135 (ENS $\rightarrow$ PV) to 2.938 (SS $\rightarrow$ DI), with the full set of nine values reported in Table 7, indicating that multicollinearity was not a concern. Because this maximum was assessed against every predictor-criterion

TABLE 5 Fornell–Larcker criterion and HTMT.

Constructs	DI	ES	ENS	PV	SS	VI
DI	0.921					
ES	0.813 (0.861)	0.929				
ENS	0.194 (0.197)	0.236 (0.238)	0.962			
PV	0.763 (0.810)	0.723 (0.764)	0.295 (0.302)	0.922		
SS	0.711 (0.761)	0.755 (0.805)	0.343 (0.356)	0.735 (0.787)	0.932	
VI	0.828 (0.891)	0.795 (0.854)	0.196 (0.198)	0.704 (0.757)	0.681 (0.740)	0.924

Parentheses show HTMT values, with <0.90 indicating weak validity and <0.85 indicating strong validity.

Bold values are the square root of AVE.

Other values indicate construct intercorrelations for the Fornell–Larcker criterion.

TABLE 6 Cross-loadings matrix.

Constructs	DI	ENS	ES	PV	SS	VI
DI1	0.828	0.614	0.534	0.700	0.552	0.649
DI2	0.822	0.424	0.400	0.528	0.401	0.469
DI3	0.785	0.331	0.341	0.388	0.345	0.396
DI4	0.771	0.470	0.289	0.486	0.432	0.442
ENS1	0.490	0.842	0.413	0.576	0.642	0.538
ENS2	0.560	0.878	0.496	0.598	0.572	0.559
ENS3	0.387	0.709	0.224	0.506	0.420	0.322
ES1	0.406	0.369	0.873	0.324	0.382	0.360
ES2	0.499	0.478	0.929	0.466	0.491	0.503
PV1	0.459	0.475	0.223	0.704	0.404	0.359
PV2	0.598	0.598	0.495	0.808	0.522	0.594
PV3	0.481	0.497	0.294	0.737	0.376	0.504
PV4	0.503	0.504	0.295	0.770	0.430	0.463
SS1	0.362	0.454	0.262	0.443	0.793	0.276
SS2	0.541	0.632	0.497	0.538	0.924	0.492
SS3	0.506	0.633	0.471	0.501	0.851	0.496
VI1	0.666	0.579	0.512	0.587	0.490	0.845
VI2	0.376	0.414	0.303	0.498	0.325	0.778
VI3	0.390	0.369	0.291	0.420	0.343	0.741

Bold values indicate each item's loading on its hypothesized construct, which should exceed its loadings (cross-loadings) on all other constructs, supporting discriminant validity.

TABLE 7 Inner model full collinearity VIF values.

Structural path	Inner VIF
DI → VI	2.393
ES → DI	2.726
ES → PV	2.329
ENS → DI	1.144
ENS → PV	1.135
PV → DI	2.557
PV → VI	2.393
SS → DI	2.938
SS → PV	2.492

ES, economic sustainability; SS, social sustainability; ENS, environmental sustainability; PV, perceived value; DI, destination image; VI, visit intention.

pair in the structural model rather than derived from a single aggregate statistic, and because even the highest value sat comfortably below the 3.3 threshold rather than near it, this result provides a comprehensive rather than marginal indication that common method bias did not materially distort the structural estimates. R^2 values exceeded the 0.10 threshold (Falk and Miller, 1992) for all endogenous constructs: PV ($R^2 = 0.609$), DI ($R^2 = 0.731$), and VI ($R^2 = 0.698$). These results indicate moderate-to-substantial explanatory power. For effect sizes, SS had the largest effect on PV ($f^2 = 0.179$, medium), followed closely by ES ($f^2 = 0.170$, medium), whereas ENS had a negligible effect on PV ($f^2 = 0.008$). For DI, ES showed a medium-to-large effect ($f^2 = 0.347$), while ENS ($f^2 = 0.012$) and SS ($f^2 = 0.012$) had negligible effects. PV had a medium effect on DI ($f^2 = 0.172$) and a small effect on VI ($f^2 = 0.042$), whereas DI had a large effect on VI ($f^2 = 0.668$). Overall, these results suggest that DI is the strongest immediate predictor of VI, ES is the main predictor of DI, and both SS and ES are the main predictors of

PV. Model fit was acceptable, with SRMR values of 0.040 for the saturated model and 0.045 for the estimated model, both below the 0.12 threshold (Henseler et al., 2015). PLS predict with 10-fold cross-validation yielded positive Q^2 predict values for PV (0.602), DI (0.679), and VI (0.633), indicating meaningful out-of-sample predictive capability (Hair et al., 2022).

4.4 Hypothesis testing

Bootstrapping with 5,000 resamples was used to assess the direct hypotheses. Seven of the nine direct paths were statistically supported, while H2b and H2c were not. H1a ($\beta = 0.394$, $t = 7.949$) was supported, indicating that tourist perceptions of economic fairness and local livelihood support positively enhance perceived value. H1b ($\beta = 0.417$, $t = 8.120$) was supported, showing that host-community relations and cultural preservation contribute to greater visit-derived value. H1c ($\beta = 0.059$, $t = 2.031$) was also supported, although the effect of environmental sustainability on perceived value was relatively weak.

H2a ($\beta = 0.505$, $t = 9.540$) was supported, showing that economically responsible destination governance strengthens destination image. H2b ($\beta = 0.098$, $t = 1.885$) was not supported, indicating that socially sustainable practices do not significantly shape tourists' overall impression of the destination. H2c ($\beta = -0.060$, $t = 2.821$) was also not supported. Although statistically significant, the coefficient was negative and therefore contradicted the hypothesized positive direction.

H3a ($\beta = 0.344$, $t = 5.774$) was supported, confirming that higher perceived visit value contributes positively to destination image. H3b ($\beta = 0.173$, $t = 3.406$) was supported, establishing perceived value as a

direct antecedent of visit intention. H4 ($\beta = 0.695$, $t = 13.945$) was also supported, showing that destination image significantly increases visit intention.

4.5 Mediation analysis

All specific indirect effects were assessed using 5,000-resample bootstrapping with two-tailed p -values at $p < 0.05$ (Hair et al., 2019; Hayes, 2018). Perceived value significantly mediated the effects of two sustainability dimensions on visit intention: ES $\rightarrow$ PV $\rightarrow$ VI ($\beta = 0.068$, $t = 2.957$) and SS $\rightarrow$ PV $\rightarrow$ VI ($\beta = 0.072$, $t = 2.891$). However, ENS $\rightarrow$ PV $\rightarrow$ VI ($\beta = 0.010$, $t = 1.905$) was not supported. These results indicate that PV serves as an important transmission mechanism through which economic and social sustainability enhance visit intention.

Destination image significantly mediated the ES $\rightarrow$ VI relationship ($\beta = 0.351$, $t = 6.890$), supporting H6a. However, SS $\rightarrow$ DI $\rightarrow$ VI ($\beta = 0.068$, $t = 1.845$) was not supported, consistent with the non-significant direct path from SS to DI. ENS $\rightarrow$ DI $\rightarrow$ VI was also not supported ($\beta = -0.042$, $t = 2.754$) because the coefficient was negative and contradicted the hypothesized positive direction. Finally, DI significantly mediated the PV $\rightarrow$ VI relationship (H7: $\beta = 0.239$, $t = 6.257$), while the direct PV $\rightarrow$ VI path also remained significant, indicating partial mediation. Overall, PV links economic and social sustainability to visit intention, whereas DI provides a strong complementary pathway, particularly for economic sustainability and perceived value. Hypothesis testing results are presented in Table 8.

TABLE 8 Summary of hypothesis testing.

Hypothesis	β	T-value	Bootstrapping CI 97.5% (N = 5,000)		Decision
			Min	Max	
Direct effects					
H1a(+) ES → PV	0.394***	7.949	0.297	0.491	Supported
H1b(+) SS → PV	0.417***	8.120	0.317	0.519	Supported
H1c(+) ENS → PV	0.059*	2.031	0.004	0.118	Supported
H2a(+) ES → DI	0.505***	9.540	0.401	0.603	Supported
H2b(+) SS → DI	0.098	1.885	−0.005	0.199	Not supported
H2c(+) ENS → DI	−0.060**	2.821	−0.103	−0.019	Not supported
H3a(+) PV → DI	0.344***	5.774	0.236	0.469	Supported
H3b(+) PV → VI	0.173***	3.406	0.083	0.284	Supported
H4(+) DI → VI	0.695***	13.945	0.588	0.783	Supported
Mediating effects					
H5a(+) ES → PV → VI	0.068**	2.957	0.030	0.121	Supported
H5b(+) SS → PV → VI	0.072**	2.891	0.031	0.129	Supported
H5c(+) ENS → PV → VI	0.010	1.905	0.001	0.021	Not supported
H6a(+) ES → DI → VI	0.351***	6.890	0.253	0.449	Supported
H6b(+) SS → DI → VI	0.068	1.845	−0.003	0.141	Not supported
H6c(+) ENS → DI → VI	−0.042**	2.754	−0.072	−0.013	Not supported
H7(+) PV → DI → VI	0.239***	6.257	0.168	0.319	Supported

Significance level with *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

5 Discussion

The results for H1a, H1b, and H1c show that all three TBL dimensions positively predict perceived value, although the differences in magnitude indicate that tourists do not process sustainability as a uniform stimulus. Social sustainability has the strongest effect on perceived value (H1b, $\beta = 0.417$), followed closely by economic sustainability (H1a, $\beta = 0.394$), while environmental sustainability has only a weak positive effect (H1c, $\beta = 0.059$). This supports prior research showing that sustainability perceptions can enhance tourist value assessment (Iniesta-Bonillo et al., 2016) and that perceived value is a key evaluative construct in tourist behavior (Gallarza and Saura, 2006). However, the present findings refine those studies by showing that the value effect is dimension-specific. In this sample, tourists appear to derive greater value from socio-cultural quality and fair local economic benefit than from environmental practices alone. This differs from sustainability-sensitive tourism contexts where environmental concern and ecological destination attributes are more central to tourists' evaluations (Bernini et al., 2021; Pham and Khanh, 2021). A plausible interpretation is that environmental sustainability may be treated by respondents as an expected baseline condition, whereas social and economic sustainability are more directly connected to the perceived worth and meaning of the visit.

The results for H2a, H2b, and H2c reveal a sharper separation among the three sustainability dimensions in shaping destination image. Economic sustainability strongly improves destination image (H2a, $\beta = 0.505$), while social sustainability does not significantly affect destination image (H2b, $\beta = 0.098$), and environmental sustainability shows a negative direct effect that contradicts the hypothesized positive direction (H2c, $\beta = -0.060$). The strong ES to DI relationship is consistent with studies showing that responsible sustainability or ESG-related practices can strengthen brand-related and image-related outcomes (Bae et al., 2023; Zhang and Jung, 2025). In this study, economic sustainability appears to function as a signal of locally beneficial destination management. When tourism is perceived to support local livelihoods, local businesses, fair benefit distribution, and employment opportunities, the destination may be interpreted as more reputable, attractive, and locally responsible. The unsupported H2b differs from studies linking social and relational destination qualities with destination image and loyalty (Chi and Qu, 2008). This suggests that social sustainability may improve the immediate visit experience without necessarily becoming part of the broader destination image. The unsupported H2c also contrasts with ecotourism research where environmental concern and destination image are closely connected (Pham and Khanh, 2021). This pattern is also consistent with qualitative evidence on how social sustainability is actually produced at the destination level. Dong and Nguyen (2023) show that community involvement in destination governance depends on active power sharing between local communities and authorities rather than emerging on its own, and only becomes visible when that power is genuinely exercised. Where such involvement remains informal or invisible to visitors, as may be the case in this sample, social sustainability can still shape the immediate quality of host-guest interaction without being recognized by tourists as a defining feature of the destination as a whole.

This negative coefficient is the most striking result in the model, and it deserves a broader set of explanations than a single hedge can offer. A first candidate mechanism concerns how environmental management is actually experienced rather than how it is intended. Much

of what counts as visible environmental sustainability at a destination, such as visitor caps, restricted zones, permits, and conservation fees, takes the concrete form of a constraint on tourist behavior rather than an added benefit. Constraint perceptions have been shown to directly weaken destination image rather than leave it unaffected (Nazir et al., 2021), which offers one plausible route to a negative rather than merely a null effect. A second mechanism concerns inference rather than restriction. Visible conservation signage and management effort can function as evidence that a destination has, or previously had, an ecological problem serious enough to require intervention, so tourists may read the presence of active environmental management as a signal of underlying degradation rather than as reassurance. A third mechanism concerns credibility rather than inference. Qualitative evidence from the hotel sector shows that travelers often meet environmental claims with skepticism, attributing them to cost saving or image building rather than genuine stewardship, a pattern participants themselves associated with weakened trust rather than simple indifference (Shishan et al., 2025). That evidence comes from hotel green communication rather than destination level environmental management, and from an interpretive study that does not establish causal direction, but the same skepticism plausibly extends to how tourists read visible sustainability measures at the destination level. A fourth explanation concerns the sample rather than the mechanism. Unlike ecotourism studies that recruit visitors already motivated by environmental concern, the present sample draws on general Thai tourists, for whom environmental sustainability may not be a salient or valued destination attribute in the first place, making a positive image effect less likely to emerge even where genuine environmental management is present. A fifth explanation concerns the occasion rather than the tourist or the mechanism. Research on consumption during atypical, festive periods shows that the relationship between people's general disposition toward socially responsible consumption and their actual purchase intentions is not fixed, but is moderated by situational and atmospheric factors specific to the occasion (Robinot et al., 2017). A vacation may function similarly to the festive periods examined in that research, as a bounded, hedonically oriented occasion in which environmental considerations that would normally support a favorable evaluation are weighted differently against the experiential goals of the trip. These five explanations are not mutually exclusive, and the cross sectional self reported design of this study cannot separate them, since tourists who already hold a weaker destination image for unrelated reasons may also be the ones most likely to notice and report environmental management efforts. Disentangling restriction, inference, credibility, sample specific, and occasion specific explanations is left as a direction for future research rather than a claim this study can resolve.

The organism-response relationships tested in H3a, H3b, and H4 support the sequential logic of the model. Perceived value significantly improves destination image (H3a, $\beta = 0.344$) and visit intention (H3b, $\beta = 0.173$), while destination image has the strongest direct effect on visit intention (H4, $\beta = 0.695$). These findings are consistent with destination loyalty models showing that evaluative destination experiences contribute to image and later behavioral responses (Chi and Qu, 2008; Chen and Tsai, 2007). They also align with research identifying destination image as a central predictor of tourist behavioral intention (Afshardoost and Eshaghi, 2020). What is distinctive in the present results is the relative strength of the relationships. Perceived value matters, but destination image carries greater behavioral weight. This indicates that tourists' future visit

intention is shaped not only by value assessment, but also by whether that value contributes to a favorable overall image of the destination.

The mediation results for H5a, H5b, and H5c show that perceived value mediates the effects of economic and social sustainability on visit intention, but not the environmental sustainability pathway. The supported ES to PV to VI relationship (H5a, $\beta = 0.068$) and SS to PV to VI relationship (H5b, $\beta = 0.072$) are consistent with [Iniesta-Bonillo et al. \(2016\)](#), who found perceived value to mediate the relationship between sustainability perceptions and tourist outcomes, and with [Gallarza and Saura \(2006\)](#), who identified perceived value as a central mechanism connecting destination-related evaluations to behavioral responses. However, the unsupported ENS to PV to VI relationship (H5c, $\beta = 0.010$) shows that environmental sustainability does not generate a sufficiently strong value-based route to visit intention in this sample. This qualifies previous research that treats sustainability as a broad predictor of tourist intention ([Sanchez-Fernandez et al., 2019](#); [Kusumawati et al., 2020](#)). It also aligns with meta-analytic evidence suggesting that sustainability-related antecedents do not always influence tourist behavioral intention directly, but often operate through intervening psychological mechanisms ([Hansen et al., 2024](#)). The present data show that the perceived-value mechanism is not automatic across all sustainability pillars. It operates clearly for economic and social sustainability, but only weakly for environmental sustainability.

For H6a, H6b, and H6c, destination image mediates only the economic sustainability pathway to visit intention. The supported ES to DI to VI relationship (H6a, $\beta = 0.351$) is consistent with [Zhang and Jung \(2025\)](#), where image transmits the effect of responsible management practices into behavioral intention. It also aligns more broadly with [Bae et al. \(2023\)](#), where ESG-related signals affect tourist behavioral outcomes through brand-related mechanisms. However, the unsupported SS to DI to VI relationship (H6b, $\beta = 0.068$) and ENS to DI to VI relationship (H6c, $\beta = -0.042$) show that image mediation is selective. This follows directly from the H2 results: economic sustainability significantly shapes destination image, social sustainability does not, and environmental sustainability moves in the opposite direction from the hypothesis. Therefore, only economic sustainability has a clear image-based route to visit intention. This finding extends prior sustainability and ESG studies by showing that image mediation should not be assumed for every sustainability dimension.

For H7, destination image significantly mediates the relationship between perceived value and visit intention ($\beta = 0.239$), confirming the sequential structure proposed in the model. This result is consistent with information integration theory ([Anderson, 1981](#)), which argues that lower-order evaluations are integrated into broader representations before shaping behavior. It is also consistent with destination image studies showing that tourists' evaluative judgments and destination impressions jointly shape behavioral intentions ([Chi and Qu, 2008](#); [Chen and Tsai, 2007](#); [Afshardoost and Eshaghi, 2020](#)). The supported H7 clarifies that perceived value and destination image are not merely two parallel mediators. Perceived value partly shapes destination image, and destination image then becomes the stronger route to visit intention. This explains why the direct PV to VI relationship remains significant but weaker than the DI to VI relationship. This sequential structure describes the best fitting specification within a single cross-sectional survey and should not be read as evidence that perceived value forms strictly before destination image in time. Both constructs were measured at the same point after the visit, so temporal

ordering between them cannot be validated, only the structural consistency of the proposed sequence with the observed covariances.

6 Implications

6.1 Theoretical implications

The central theoretical mechanism uncovered by this study can be described as selective sequential transmission. Rather than treating sustainability as a single stimulus block that triggers one common evaluative sequence, as the baseline S-O-R formulation implies ([Mehrabian and Russell, 1974](#); [Donovan and Rossiter, 1982](#)), the findings show that each TBL dimension is first selectively routed into one or both organism level mediators depending on its psychological character, and only the portion that reaches perceived value then moves through an ordered path into destination image before shaping visit intention, consistent with the consolidation logic described by information integration theory ([Anderson, 1981](#)). Economic sustainability is routed into both mediators, social sustainability is routed mainly into value, and environmental sustainability enters only a weak value channel and does not enter the image channel at all. The mechanism therefore has two layers working together, a selection layer that determines which mediator each sustainability dimension activates, and a sequencing layer that orders how value and image build on each other once activated. The three implications below trace how this mechanism departs from assumptions that have generally gone untested in prior S-O-R and TBL research.

This study refines S-O-R theory by showing that sustainability stimuli are not processed uniformly within the organism layer. Traditional S-O-R logic explains behavior as a sequence from external stimuli to internal evaluation and then response ([Mehrabian and Russell, 1974](#); [Donovan and Rossiter, 1982](#)). The present findings specify this sequence by showing that different TBL stimuli activate different psychological routes. Economic sustainability operates through both perceived value and destination image, social sustainability operates mainly through perceived value, and environmental sustainability has only a weak value effect while failing to support the hypothesized positive image route. This suggests that sustainability should not be treated as a single undifferentiated stimulus category in tourism S-O-R models. The theoretical issue is not only whether tourists perceive sustainability, but whether each sustainability dimension becomes value-relevant, image-relevant, or only weakly transmitted into behavioral intention. This departs from how sustainability stimuli have typically been operationalized in tourism S-O-R research, where economic, social, and environmental cues are usually combined into a single composite sustainability stimulus or assumed to transmit through the organism layer in broadly similar ways. By showing that the three TBL stimuli produce structurally different transmission patterns rather than a shared one, this study shifts the relevant question from whether sustainability affects tourist cognition toward which sustainability signal matters and through which psychological channel it travels. Concretely, the extension works in two ways. First, it turns stimulus differentiation into a formal boundary condition of the model rather than an implicit assumption, since the stimulus layer can no longer be treated as a homogeneous set of environmental cues that trigger one common organismic response. Second, it supplies an explicit

internal architecture for the organism layer, in the form of the selection and sequencing layers described above, where the original S-O-R formulation left the internal structure of organismic processing largely unspecified (Mehrabian and Russell, 1974; Donovan and Rossiter, 1982). Together these two additions give S-O-R a structure that can predict which stimulus activates which internal pathway, rather than only asserting that stimuli are processed before a response follows.

The study also clarifies how the TBL dimensions function at the tourist decision level. TBL theory positions economic, social, and environmental sustainability as jointly important for sustainable development (Elkington, 1997), but the present findings show that their psychological roles are unequal. Social sustainability is the strongest predictor of perceived value, economic sustainability is the strongest predictor of destination image, and environmental sustainability is the weakest behavioral route in the model. This refines previous studies that treated sustainability as a general predictor of tourist responses (Iniesta-Bonillo et al., 2016; Sanchez-Fernandez et al., 2019; Kusumawati et al., 2020). The contribution is not that one pillar is objectively more important than another, but that each pillar carries a different psychological meaning for tourists. Economic sustainability functions as a governance and legitimacy cue, social sustainability functions as an experiential value cue, and environmental sustainability appears to operate more as a background or threshold cue unless it is translated into visible experience quality. This finding pushes against the equal weighting logic that underlies most applications of TBL theory in tourist behavior research, where the three pillars are typically treated as parallel and comparably important inputs. Showing that tourists assign unequal psychological weight to each pillar reframes TBL as a differentiated cognitive structure rather than a reporting or management checklist, which is a distinction future tourist behavior research needs to model rather than assume.

Finally, the study clarifies S-O-R-based mediation logic by showing that the organism layer is sequential rather than merely parallel. The supported PV to DI relationship and the supported PV to DI to VI mediation indicate that perceived value partly shapes destination image, which then becomes the strongest driver of visit intention. More importantly, the mediation results show that indirect effects are dimension-specific: perceived value mediates the ES $\rightarrow$ VI and SS $\rightarrow$ VI pathways but not the ENS $\rightarrow$ VI pathway, while destination image mediates only the ES $\rightarrow$ VI pathway among the three TBL dimensions. This confirms that mediation in sustainable tourism is not a generic mechanism attached to perceived value or destination image, but a route-specific process determined by which sustainability stimulus is being processed. This is consistent with information integration theory (Anderson, 1981) and prior destination image studies showing that tourists' evaluative judgments contribute to broader destination impressions and behavioral intentions (Chi and Qu, 2008; Chen and Tsai, 2007; Afshardoost and Eshaghi, 2020). Thus, perceived value and destination image should not be modeled only as independent mediators. In sustainable tourism, tourists first evaluate whether the visit is worthwhile; that evaluation then helps form the image of the destination; and this image becomes the dominant route to visit intention. This sequential patterning also revises a common modeling default in S-O-R based tourism studies, where perceived value and destination image are frequently entered as parallel, competing mediators rather than as ordered organism states. Establishing that value evaluation precedes and partly constitutes image formation gives the organism component of S-O-R an internal architecture that prior

sustainable tourism applications of the framework have largely left unspecified.

The importance of this extension is not limited to the tourism setting in which it was tested. S-O-R has been applied across many consumer domains, including retail atmospherics, online shopping environments, hospitality, and corporate sustainability or ESG communication, and in most of these applications the stimulus layer is still treated as a set of interchangeable cues that feed a shared organismic response (Donovan and Rossiter, 1982). Because selective sequential transmission specifies how stimulus type governs which organism level pathway is activated and in what order, it offers a transferable logic for any S-O-R application where multiple stimuli of different psychological character are presented at the same time, such as multi-attribute retail environments, multi-dimensional CSR communication, or platform design features in digital commerce. The mechanism therefore addresses a limitation in S-O-R theory that reaches beyond tourism, namely the assumption that stimuli of different kinds are functionally interchangeable once they reach the organism, an assumption that is unlikely to hold whenever a stimulus set is itself heterogeneous rather than made up of variations on a single cue type.

6.2 Practical implications

For the Tourism Authority of Thailand and destination management organizations, the strongest practical implication is that economic sustainability should be made visible as part of destination image building. Economic sustainability has the strongest direct effect on destination image, and destination image is the strongest predictor of visit intention. This means that tourists respond not only to whether tourism benefits local people, but also to whether those benefits are visible enough to shape the image of the destination. One practical approach would be to make local economic benefits more transparent across selected destinations, hotels, tours, and attractions. Each participating tourism product could display a simple QR-based profile showing local supplier participation, community employment, locally owned partner businesses, and contributions to community funds. This would turn economic sustainability from an invisible management practice into a destination image cue. The system is feasible because it relies on information tourism businesses already possess, such as supplier lists, procurement records, employment data, and community partnership records. For destination branding, this allows Thailand to communicate sustainability not only as environmental protection, but also as visible local economic fairness.

For hotels, guesthouses, and tour operators, the findings suggest that sustainability should be experienced before it is claimed. Perceived value significantly shapes destination image, and destination image strongly predicts visit intention. Therefore, sustainability communication should not begin with generic messages such as "we support sustainability." It should begin with concrete proof points that tourists encounter during the visit. Accommodation providers and tour operators could incorporate sustainability proof points across the customer journey. At booking, tourists could receive a brief explanation of how their stay or tour supports local people. At check-in or tour arrival, they could receive a local sourcing card showing nearby farms, fishers, artisans, guides, or community groups involved in the experience. During the stay or tour, they could encounter at least one visible sustainability touchpoint, such as locally guided neighborhood walks, community-made amenities, local food storytelling, or transparent local procurement. After the visit, they could receive a short

summary of how their visit supported local actors. This approach is practical because it does not require large infrastructure investment. It reorganizes existing sustainability activities into a visible experience that can increase perceived value and strengthen destination image.

For community-based tourism operators and cultural heritage managers, the key implication is that social sustainability should be protected as an experience-value asset. Social sustainability is the strongest predictor of perceived value, but it does not significantly predict destination image directly. This means that tourists feel the value of social sustainability during the visit, but it may not automatically become part of the broader destination reputation. The solution is not to over-brand local culture or convert it into staged performances. A more suitable approach is to provide limited and community-approved access to everyday cultural routines, such as market preparation, craft production days, temple activities, farming routines, cooking practices, or local festivals. These encounters should be controlled by the community, limited in group size, and scheduled only when they do not disrupt local life. This protects authenticity while making social sustainability more visible and meaningful to tourists. It also helps communities avoid cultural standardization, where local traditions are reshaped only to satisfy tourist schedules.

For environmental agencies, protected area managers, and nature-based attractions, the weak effect of environmental sustainability on perceived value and the negative effect on destination image suggest that environmental management must be translated more clearly into visitor-perceived destination quality. The finding does not mean that environmental sustainability should be reduced. Rather, it indicates that environmental protection, ecosystem management, responsible tourist behavior, and pollution or waste reduction may not automatically strengthen destination image unless tourists can connect these practices with landscape quality, pleasant experience, destination reputation, or overall attractiveness. A practical response is to identify environmental rules that create tourist friction and connect each rule to a visible visitor benefit. Restricted reef zones, for example, could be accompanied by coral recovery images. Visitor caps could be linked to crowd-reduction and wildlife-return indicators. Waste sorting could be connected to visible cleanliness outcomes. Environmental fees could be accompanied by short digital updates showing what the fees funded. This approach does not weaken environmental standards. It converts environmental control into perceived destination quality, helping tourists understand that protection improves the place they came to experience.

7 Limitations and future research avenues

This study has three main limitations that offer meaningful directions for future research. First, each sustainability pillar was measured as an aggregate perception. While this was appropriate for testing the overall TBL structure, it may conceal important differences within each pillar. This is especially relevant for environmental sustainability, where visible cleanliness, conservation rules, waste reduction, ecosystem protection, visitor caps, and environmental fees may produce different psychological reactions. Future research should decompose the TBL dimensions into more specific sub-dimensions or apply a hierarchical component model to identify which sustainability cues create value and which may weaken destination image.

Second, the study measured tourists' perceptions of sustainability but did not directly capture how visible or interpretable those sustainability practices were during the visit. This matters because a destination may implement strong sustainability practices that tourists do not notice, or tourists may notice them only as restrictions. Future research should combine tourist surveys with destination audits, operator data, or experimental designs that vary how sustainability information is displayed. This would help explain when sustainability becomes perceived value, when it strengthens destination image, and when it remains behaviorally weak.

Third, the cross-sectional design captures economic, social, and environmental sustainability, perceived value, destination image, and visit intention at a single point in time. This means the sequential and mediating relationships reported here describe a structural specification that is consistent with the data rather than a temporal ordering that has been validated. The claim that perceived value forms before destination image, and that both precede visit intention, rests on theoretical reasoning rather than on repeated measurement of the same tourists over time. Future research using longitudinal or experimental designs is needed to confirm whether these constructs actually unfold in the sequence the model assumes.

8 Conclusion

This study examined how economic, social, and environmental sustainability influence Thai tourists' visit intention through perceived value and destination image within an S-O-R framework. The findings show that TBL sustainability dimensions are not interchangeable stimuli. Social sustainability is the strongest predictor of perceived value, followed closely by economic sustainability, while environmental sustainability has only a weak positive effect. For destination image, economic sustainability is the only sustainability dimension with a strong positive effect, whereas social sustainability is not significant and environmental sustainability moves against the hypothesized positive direction.

The study also confirms the central role of destination image in tourist decision-making. Although perceived value directly increases visit intention, destination image is the strongest predictor. The supported PV to DI path and PV to DI to VI mediation indicate that tourists first evaluate whether the visit is worthwhile; this value judgment then helps shape destination image, which subsequently drives visit intention.

The mediation results further demonstrate that sustainability affects tourist intention selectively rather than uniformly. Perceived value mediates the effects of economic and social sustainability on visit intention, but not the environmental sustainability pathway. Destination image mediates only the economic sustainability pathway. Overall, the study shows that sustainability produces behavioral effects only when tourists translate specific sustainability dimensions into perceived value, destination image, or both.

Data availability statement

The datasets presented in this article are not readily available because they contain sensitive information that could compromise the privacy of survey respondents. Requests to access the datasets should be directed to waiphot.ku@ssru.ac.th.

Ethics statement

This study follows the Ethical Guidelines for Research on Human Subjects in Thailand issued by the [Forum for Ethical Review Committees in Thailand (FERCIT), 2007], the framework Thai institutions without their own ethics committee rely on. Under these Guidelines, minimal-risk social and behavioral research involving non-vulnerable adults may proceed without formal committee review or signed consent, provided confidentiality and voluntary participation are preserved. The Guidelines classify social science inquiry and interviews as human-subject research (Section 1.4.1), identify voluntary participation, harm avoidance, and confidentiality as the ethical principles governing such research (Section 7.3), and permit minimal-risk protocols to forgo formal review submission and signed consent (Sections 6.4.5–6.4.7). This study meets those conditions: participants were non-vulnerable adults who took part anonymously and voluntarily, no sensitive personal or health-related data were collected, and withdrawal was possible at any time without consequence. Formal ethics committee review was accordingly not sought, and no exemption certificate or approval document was issued.

Author contributions

AT: Conceptualization, Formal analysis, Methodology, Resources, Software, Validation, Writing – original draft, Writing – review & editing. WK: Conceptualization, Data curation, Investigation, Validation, Writing – original draft, Writing – review & editing. PH: Data curation, Project administration, Resources, Software, Visualization, Writing – original draft, Writing – review & editing. AS: Conceptualization, Formal analysis, Investigation, Supervision, Writing – original draft, Writing – review & editing.

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