

COASTAL GEOGRAPHIES OF WILLINGNESS TO SACRIFICE FOR SUSTAINABILITY: THE ROLE OF VALUE ORIENTATIONS TOWARD GREEN TOURISM

Thanapol INPRASERTKUL ¹, Siriporn KHETJENKARN ^{2*}, Chee Keng LEE ³

¹ Burapha University, Burapha Business School, Chon Buri, Thailand; thanapol.in@buu.ac.th (T.I.)

² Burapha University, International College, Chon Buri, Thailand; siriporn.kh@go.buu.ac.th (S.K.)

³ National University of Singapore, NUS College, Singapore; ckenglee@nus.edu.sg (C.K.L.)

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Abstract: The ongoing expansion of international tourism drives global socio-economic development, yet it also significantly causes environmental challenges. The Eastern Economic Corridor (EEC) of Thailand, with its popular coastal destinations, fosters long-term economic competitiveness while simultaneously raising environmental concerns. Thus, promoting sustainability contributes to attracting tourists to this area. The main objective of this study was to investigate key antecedents affecting tourists' willingness to sacrifice for sustainability, employing the Value-Belief-Norm theory as an initial framework, and incorporating an extended key determinant; green consumption value within the context of green tourism at coastal destinations. The self-administered questionnaire collected data from targeted participants using purposive and convenience sampling at coastal tourism destinations in the EEC, yielding 603 valid responses. The proposed theoretical framework was developed to illuminate Thai tourists' pro-environmental behavioral intentions, with structural model analysis confirming the hypothesized relationships within the proposed framework. Notably, value orientations emerged as key factors influencing tourists' beliefs of ascribed responsibility. This belief subsequently influenced tourists' green consumption value, which in turn affected willingness to sacrifice, demonstrating a sequential process of forming tourists' green behavioral intentions. Furthermore, egoistic value moderated the relationship between green consumption value and willingness to sacrifice. These comprehensive findings not only provide theoretical insights but also offer managerial contributions for the adoption of environmentally sustainable tourism at coastal destinations.

Keywords: Green tourism, willingness to sacrifice, value orientations, ascribed responsibility, green consumption value

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INTRODUCTION

International tourism is expected to continue growing through 2025, with strong demand driving the socio-economic development of both well-established and emerging destinations (World Tourism Organization, 2025). However, this ongoing expansion has also contributed to significant environmental and social challenges (Baloch et al., 2023).

In response, sustainable tourism development has emerged as a key strategy to balance economic benefits with environmental conservation and social well-being (Gupta et al., 2024). While the Eastern Economic Corridor (EEC) of Thailand serves as a prime example of a region undergoing rapid tourism growth alongside substantial industrial and infrastructural expansion (Eastern Economic Corridor Office of Thailand, 2024), this particular development in EEC also fosters long-term economic competitiveness and green jobs, while simultaneously raising concerns regarding environmental impacts. In addition, the EEC is a diverse region located along the coast of the Gulf of Thailand, offering a wide range of attractions to tourists, including popular coastal destinations. Green tourism, often used interchangeably with the term “sustainable tourism”, specifically focuses on promoting sustainability through eco-friendly or environmentally friendly practices (Al-sakkaf et al., 2024). It has also been promoted to mitigate environmental impacts and challenges (Ibnou-Laaroussi et al., 2020). Therefore, achieving sustainable practices at tourist attractions requires an insight of the factors that encourage or discourage tourist behaviors toward sustainability.

Prior researchers have made efforts to investigate several aspects of tourists' sustainable behaviors. For instance, Pinthong et al. (2024) conducted a study assessing visitors' pro-environmental behaviors at urban forest destinations, examining biospheric value, attitude, and intentions regarding natural/local resource conservation. Nascimento & Loureiro (2024) examined tourists' desire for green consumption, concentrating on environmental beliefs and personal norms. Jawabreh et al. (2023) explored the sustainability of green tourism, targeting international tourists' environmental concerns and their desire to practice environmental and sustainable consciousness. Additionally, Gupta & Sharma (2019) investigated the key factors influencing tourists' intentions to behave pro-environmentally, concentrating on individuals' values, beliefs, and norms. Likewise, Nguyen et al. (2024) studied Generation Z's green tourism behavior, highlighting the theory of planned behavior

* Corresponding author

and theory of values, attitudes, and behavior. Collectively, the above evidence provides nuanced understanding into the underlying dynamic forces and pinpoints the favorable results linked to travellers' sustainable actions.

However, additional research is necessary to expand and strengthen this existing foundation of knowledge, especially concerning attitudes and behavioral intention. Particularly, the role of egoistic values in moderating key relationship within this environmental framework is likely unexplored. Thus, this research aims to comprehensively examine the extended factors affecting tourists' sustainable behavioral intentions in the EEC, by integrating and advancing the Value–Belief–Norm (VBN) Theory framework. Within this framework, the green consumption values; reflect how much individuals personally value environmentally friendly behaviors, is incorporated. These beliefs potentially cultivate a feeling of moral responsibility, which in turn strengthens personal norms and boosts a behavioral intention including a willingness to sacrifice for sustainability- a readiness to accept personal costs to help protect the environment. Consequently, we aimed to examine the VBN and its correlated antecedents; personal values, beliefs, attitudes, and behavioral intentions. Through this study, key insights will be gained into how green tourism concept and tourists' sustainable behavior can be effectively integrated into the EEC's economic and environmental policies. The findings will contribute to sustainable tourism management, ensuring that the region continues to succeed while the environment is well-preserved for future generations.

LITERATURE REVIEW

Value orientation and the extended Value-Belief-Norm (VBN) theory

The term of value was defined as “a desirable trans-situational goal varying in importance, which serves as a guiding principle in the life of a person or other social entity” (Schwartz, 1992). Value moderates and predicts an individuals' behavior (Wang et al., 2022). It reflects beliefs about what is desirable and transcends specific situations, and serving as guidelines that influence their desired outcomes (Stern et al., 1999). As individual's behavior, including tourists, can exert both indirect and direct effects to the environments, particularly at tourist destinations (Su et al., 2020). Stern et al. (1999) proposed the VBN theory which described the influence of values on individual behavior toward environment and explained the link between their environmental attitudes/beliefs and ecofriendly behaviors. Based on the theory, the values that contribute to individual beliefs include biospheric, altruistic and egoistic values (Schwartz, 1992); beliefs comprise a new ecological paradigm, awareness of consequence and ascribed responsibility that formulate norms; while norms denote personal norms, inspiring ecologically friendly behaviors. Accordingly, such behavior is finally motivated by personal norms, which are stimulated by the sequential influence of values and beliefs.

Biospheric value (BV) reflects a deep moral concern for nature and its well-being, where the true value of nature itself and responsible sensing of environmental protection is mainly focused, derived from an individual's concern for the consequent results of their actions on nature and ecological systems. BV highlights the importance of protecting the environment—not just for human benefits, but because nature deserves protection in its own right (Hong et al., 2024; Lee et al., 2021; Tamar et al., 2021). Altruistic value (AV) is the principle of an individual placing the well-being of others above personal interests. It identifies the behaviors to which individuals emphasizes their environmental concern for other people, communities, and future generations. Individuals with strong altruistic values are often motivated to act in ways that provide both societal and the environmental benefits. AV also significantly influence environmentally responsible behavior (Ling & Xu, 2020), encouraging actions such as voluntarily joining in conservation-related projects and using green energy to protect others (Waris et al., 2024). Egoistic value (EV) prioritizes self-interest, emphasizing personal needs, benefits, and ambitions over the welfare of others (Stern et al., 2000). Individuals with strong egoistic values tend to focus on how actions and decisions affect them directly, instead of taking into account broader environmental or social consequences (Lin et al., 2022). In many cases, these values can conflict with pro-environmental goals, as the drive for immediate personal gain may override long-term concerns about environmental protection and resource conservation for future generations (Waris et al., 2024).

In tourism context, tourists' value orientations are considered as a key factor in driving their attitudes toward pro-environmental travel, which subsequently influence their pro-environmental travel behavior and willingness to sacrifice (Isaac, 2024; Lu et al., 2024). Research indicates that AV drives eco-conscious tourism choices, as travellers who place a high value on environmental sustainability actively engage in eco-responsible travel patterns (Lu et al., 2024). EV, while typically self-centered, enhance sustainably travel patterns when individuals perceive personal benefits, such as financial savings or experience enhancement (Ribeiro et al., 2023). BV, which emphasizes environmental protection, are strongly correlated with travelers' willingness to engage in pro-environmental behaviors (Pinthong et al., 2024).

Ascribed responsibility

Ascribed responsibility (AR) is the belief that one's own actions can help lessen or worsen environmental harm (Ghazali et al., 2019; Steg & De Groot, 2010). It reflects a personal sense of moral obligation, wherein individuals acknowledge the negative impact of failing to engage in pro-environmental actions and understand their own influence on ecological outcomes (Raza & Farrukh, 2023). AR is central to the development of personal norms that motivate pro-environmental behavior, as it involves accepting responsibility for the undesirable effects of human activities and serves as a psychological trigger that bridges environmental concern with meaningful action (Zhang et al., 2024). Moreover, AR significantly influences sustainable tourism behavior, as tourists who acknowledge their environmental impact are more inclined to adopt eco-friendly practices (Isaac, 2024).

The effect of BV, AV, and EV on AR

Value orientations are vital in defining individuals' beliefs, which contribute to pro-environmental behavior. Prior studies revealed the significant role of values in relation to environmental beliefs include awareness of consequences and

AR (Chua et al., 2020), align with the VBN theory that explains the relationship between values and environmental beliefs (Stern, 2000). The theory demonstrates that BV, AV, and EV directly impact on individuals' environmental beliefs. BV significantly drives individuals to participate in environmentally friendly or nature-based tourism activities, and also affected tourist behaviors, such as cutting back on energy consumption during travel (Landon et al., 2018). AV also encourages individual to engage in activities or actions that contribute positive impact to the environment, such as resource conservation, the use of green energy, and recycling (Waris et al., 2024). Meanwhile recent studies have highlighted that EV influences on pro-environmental attitudes. For instance, Lou et al. (2024) found that individuals with stronger EV tend to embrace sustainable actions if they complement their personal benefits or satisfaction. Similar with the study of Waris et al. (2024), who observed that tourists holding EV are likely to engage in sustainability practices that accomplish both their environmental protection intentions and personal enjoyment. Additionally, Hossu et al. (2024) demonstrated that values, particularly hedonic and egoistic, significantly influence AR and directly affect individuals' engagement in green protection efforts. Similarly, Dong et al. (2024) investigated customers' intentions to visit green hotels and found that personal values significantly influenced both AR and environmental concern. Collectively, these findings demonstrate the importance of value orientations predicting beliefs, particularly as they relate AR in pro-environmental behavior. Hence, the following hypothesis was proposed:

H1: Personal values have a direct effect on ascribed responsibility (AR)

Green consumption value

Green consumption value (GC), grounded in the Theory of Consumption Values, is defined as an individual's disposition to integrate environmental concerns into their purchasing and consumption behavior (Wang et al., 2020). It reflects a deeper orientation with sustainability, wherein consumer decisions are consciously guided by ethical and ecological factors. Specifically, GV evolves along two dimensions; heightened awareness of environmental challenges and carefulness in the use of both material and financial resources (Dhir et al., 2021). Individuals with strong GV, often referred to as green consumers, demonstrate a consistent commitment to sustainability in their consumption patterns, prioritising products and practices that reduce damages to the environment (Risitano et al., 2023). Furthermore, GV reinforces sustainable travel decisions by motivating tourists to choose eco-friendly accommodations, transport, and activities (Lu et al., 2024).

The effect of AR on GC

Within the established framework of the VBN theory, AR provides a key explanation for why tourists translate environmental values into real actions, which helps activate personal norm; defined as "a sense of obligation to take pro-environmental action" (Meng et al., 2020). Personal norms are critical in shaping GV and in determining how these values are expressed through behavioral choices, such as staying at eco-certified hotels or choosing low-impact tourism activities, as supported by recent research. For example, Dong et al. (2024) found that personal values significantly impact AR, which in turn predicts tourists' intention to visit green hotels. Similarly, Kiatkawsin et al. (2020) showed that AR plays a central role in promoting tourists' behavior toward their responsibility of the environment, acting as a key motivational link between values and action. Both AR, as a form of environmental beliefs, and personal norms play a vital role in forming GV or sustainable consumption desire (Nascimento & Loureiro, 2024). These findings highlight that AR serves as a central role in connecting values to behavior and in shaping tourists' tendency to express their environmental protection values. Hence, the hypothesis was formulated:

H2: Ascribed responsibility (AR) has a direct effect on green consumption value (GC) among tourists

Willingness to sacrifice

Willingness to Sacrifice (WS) captures how much individuals are prepared to prioritize to the benefits of the society more than individuals' interest, whether that means giving up comfort, investing effort, or bearing a cost (Davis et al., 2011). It represents more than just a mindset; it reflects a readiness to do actions that will help other people. Chen & Zheng (2016) emphasized this by framing WS as a meaningful form of personal sacrifice, often made with the next generation in mind. With the environment in mind, WS specifically refers to the extent to which people make decisions that support ecological sustainability, even when it comes at the expense of their own convenience or resources. (Davis et al., 2011). Unlike general environmental concern or attitude, WS includes a conative element which includes not only caring and but also being willing to take action (Verma et al., 2019). Travellers who perceive sustainability, both personally and socially, tend to accept financial and convenience-related sacrifices, such as paying more for green lodging, limiting air travel, and participating in conserving efforts (Lu et al., 2024).

The effect of GC on WS

GC reflects an individual's prioritization of sustainability, environmental responsibility, and long-term ecological welfare over immediate personal gain (Han et al., 2021). GV is often rooted in biospheric and altruistic orientations and serves as key predictors of pro-environmental behavior in tourism settings, particularly when travelers are faced with trade-offs such as higher prices, inconvenience, or reduced comfort. In this context, WS refers to a tourist's readiness to accept these trade-offs in support of environmental goals (Davis et al., 2011). According to the VBN framework, values such as GC are initial for activating personal norms and moral obligations, which in turn motivate behavioral intentions, including WS (Demir et al., 2021; Denley et al., 2020). Empirical findings by Ribeiro et al. (2023) reveal that tourists with strong GV are more willing to pay a premium or choose less convenience specifically because the travel options are environmentally concerned. Similarly, Denley et al. (2020) observed that tourists engaged in rural eco-tourism are willing to sacrifice for environmental protection when those decisions are aligned with their environmental concerns or

attitudes. These studies reinforce that GC do not merely influence environmental attitudes but help encouraging behavioral willingness to sacrifice, a key mechanism in translating values into tourists' eco-friendly practices. Based on the VBN framework and empirical evidence, the following hypothesis is proposed:

H3: Green consumption value (GC) has a direct effect on tourists' willingness to sacrifice (WS) for environmental sustainability.

The indirect effect of BV, AV, and EV on WS via AR and GC

Personal values play a foundational role in shaping individuals' pro-environmental behaviors, according to the VBN theory (Stern et al., 1999). These behavioral intentions include WS for the environment (Han et al., 2021). Although values influence behavioral intention indirectly through beliefs and norms (Ghazali et al., 2019). For instance, Dong et al. (2024) found that personal values significantly influenced tourists' intention to visit green hotels, with AR and personal norms acting as mediators. Chua et al. (2020) reconfirmed the direct and mediating effect of the causal sequences of the constructs from personal values to environmental behavior, specifically, the mediating roles of environmental beliefs and pro-environmental personal norms. Additionally, it identified that the beliefs also affect environmental behavior indirectly through personal norms. These findings highlight the importance of value-based interventions, which the adoption of pro-environmental values helps promote individuals' moral engagement and ultimately increase their WS for environmental sustainability. The following hypothesis is hereby formulated:

H4: Personal values have an indirect effect on tourists' willingness to sacrifice (WS) for environmental sustainability via ascribed responsibility (AR) and green consumption value (GC).

The moderating role of EV on the relationship between AR on GC, and GC on WS

Prior work revealed the indirect effect of personal values, particularly biospheric or ecological value, in predicting pro-environmental behavior through beliefs and norms (Stern, 2000). Extending previous frameworks, this research proposes that EV may influence how individuals affect environmental responsibility, which translates into green behavior and WS. Previous research highlighted the role of egoistic motivation positively influenced green intention, particularly when green attitudes served as moderators (Alam et al., 2023). Similarly, Prakash et al. (2019) found that EV significantly affected consumers' attitude and purchase intention towards eco-friendly products. Moreover, the study of Sarpong et al. (2021) on consumers' purchase intentions for water-saving products, reported that EV was a dominant construct that mediated the environmental attitude and the intention. Lou et al. (2024) further confirmed the relationship between EV and pro-environmental behaviors and attitudes, noting that some behaviors, such as health benefits from buying organic food, may contribute to self-interest, while others, such as recycling, may lessen it. Additionally, it has been demonstrated that a desire for social status increases individuals' preference for eco-friendly products, and that prosocial individuals who have high face consciousness are more likely to consume sustainably (Griskevicius et al., 2010; Li et al., 2021). However, most studies have examined the direct effect of EV toward AR (Dong et al., 2024; Hossu et al., 2024), none have investigated the importance of EV as a moderating antecedent within this framework. In situations where pro-environmental behaviors are framed to emphasize individual benefits such as social recognition, individuals with stronger EV orientations may exhibit a greater willingness to engage in such behaviours (Lou et al., 2024; Waris et al., 2024), even when their motivations are primarily self-serving rather than environmentally driven. Therefore, we propose that EV functions as a moderating factor that influences the strength and direction of the relationships between AR and GC, as well as between GC and WS. The following hypotheses is suggested:

H5: Egoistic value moderates the relationship between ascribed responsibility (AR) and green consumption value (GC).

H6: Egoistic value moderates the relationship between green consumption value (GC) and willingness to sacrifice (WS) for environmental sustainability.

RESEARCH METHODOLOGY

Measurement development and questionnaire design

This study examined six constructs to assess value orientations and tourists' willingness to sacrifice in Thailand's Eastern Economic Corridor (EEC). The value orientation constructs included biospheric value (BV, 4 items), altruistic value (AV, 4 items), and egoistic value (EV, 4 items), all modified from the work of Megeirhi et al. (2020) and Ribeiro et al. (2023). Additional behavioral components comprised ascribed responsibility (AR, 7 items) adapted from Landon et al. (2018) and green consumption value (GC, 6 items) modified from Ribeiro et al. (2023). The study's focal outcome variable, willingness to sacrifice (WS, 4 items), was derived from Davis et al. (2011). These constructs were selected to develop a structural model explaining how tourists' value orientations shape their willingness to sacrifice for environmental considerations within the EEC context. The questionnaire concluded with demographic information including age, gender, education, expenditure, and duration of visits to the EEC region.

Participants and data collection procedures

Prior to data collection, the survey instrument received approval from the Ethics Review Committee. Data were collected from Thai tourists, using self-administered questionnaires, in April 2025 at coastal tourism destinations within the EEC.

A two-stage sampling approach was employed. First, purposive sampling was used to select key coastal tourism sites across Rayong and Chonburi provinces. Subsequently, participants at these locations were selected using convenience sampling techniques. To prevent biased selection of samples and results, data were collected from tourists physically present at the sites, with recruitment conducted across multiple coastal locations and at varying times to capture a diverse cross-section of tourists. Out of 800 distributed questionnaires, 688 were returned, yielding a response rate of 76.44%.

After excluding incomplete responses, 603 valid questionnaires remained for statistical analysis. This sample size exceeds the recommended minimum for structural equation modeling (SEM), which generally requires at least 200 participants (Hoe, 2008) and adheres to the 10:1 ratio guideline of participants per estimated parameter (Wolf et al., 2013).

Analysis method

This study employed a quantitative methodology involving the collection of numerical data, statistical analysis, and hypothesis testing. Data were analyzed using Mplus 7.3. Following the two-step approach proposed by Anderson & Gerbing (1988), as shown in Figure 1, the study first used Confirmatory Factor Analysis (CFA) to evaluate measurement model reliability and validity, then applied Structural Equation Modeling (SEM) to test relationships (Hair et al., 2010) among six latent constructs. In addition, moderation analysis employed interaction terms to examine how moderators influence independent-dependent variable relationships (Hair et al., 2010; Memon et al., 2019), which specifically tested EV's moderating effects on AR-GC and GC-WS relationships.

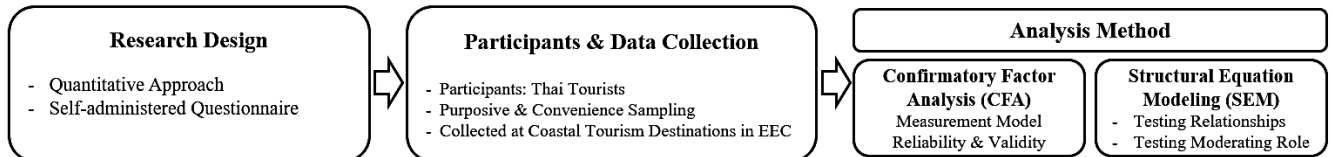


Figure 1. Analysis method process

RESULTS

Demographic profile of the participants

Figure 2 presents the demographic characteristics of the participants. The majority of participants identified as female ($n = 333$, 55.2%), followed by male participants ($n = 220$, 36.5%). Additionally, 50 participants (8.3%) identified as LGBTQIA+, indicating a diverse representation of gender identities within the sample. The largest age group among participants was 18–27 years ($n = 301$, 49.9%), reflecting a strong representation of younger adults. Participants aged 28–43 years accounted for 27.9% ($n = 168$), while those in the 44–59 age range comprised 19.1% ($n = 115$). A smaller proportion of participants ($n = 19$, 3.2%) were aged 59 years and above. In terms of educational attainment, the majority of participants held a bachelor's degree ($n = 396$, 65.7%). Those with education below a bachelor's degree constituted 29.0% ($n = 175$), while a smaller segment ($n = 32$, 5.3%) possessed qualifications higher than a bachelor's degree.

Participants reported varying levels of monthly income. The largest group ($n = 235$, 39.0%) earned between 278 and 556 USD, followed by those earning less than 278 USD ($n = 134$, 22.2%), and those in the 556–833 USD range ($n = 125$, 20.7%). Smaller proportions reported incomes of 833–1,111 USD (8.1%), 1,111–1,389 USD (4.3%), and more than 1,389 USD (5.6%). In terms of individual travel expenditure, most participants ($n = 165$, 27.4%) spent between 28 and 56 USD, followed by those spending 56–83 USD ($n = 144$, 23.9%). A total of 96 participants (15.9%) reported expenses of 83–111 USD, while 83 participants (13.8%) spent over 139 USD. Smaller groups spent either less than 28 USD (10.4%) or 111–139 USD (8.6%). For the duration of visiting, the majority of participants ($n = 384$, 63.7%) traveled for 2–3 days. Additionally, 163 participants (27.0%) reported single-day trips without overnight stays. A smaller number of participants indicated travel durations of 4–5 days (5.8%) and more than 5 days (3.5%).

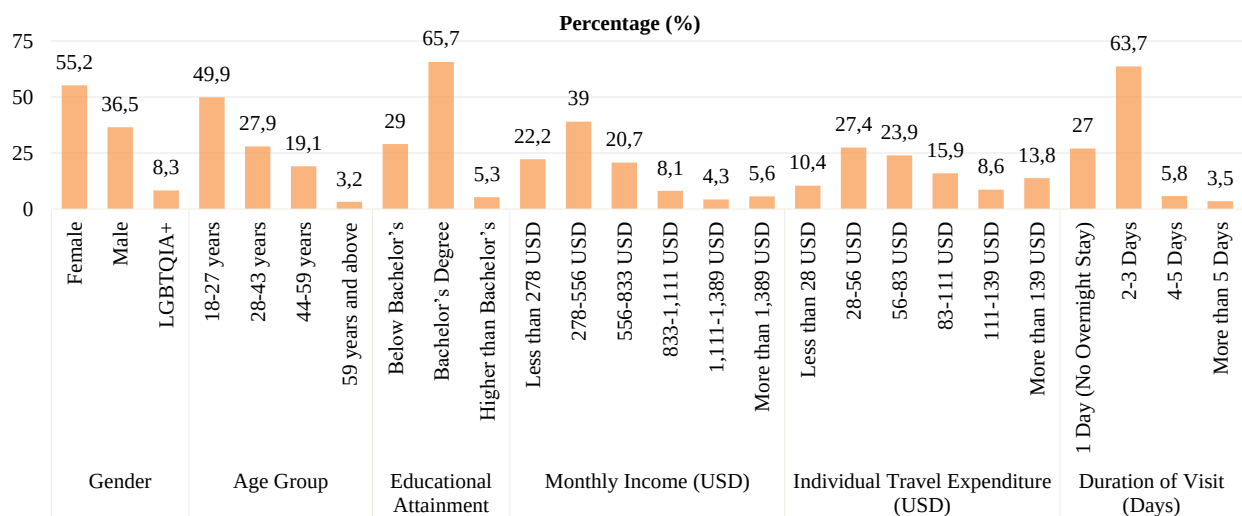


Figure 2. Demographic profile of the participants

Confirmatory factor analysis (CFA)

CFA assesses model variable patterns' consistency with empirical data. Valid and accurate analytical results are guaranteed. Five statistical criteria were used to assess empirical data-relationship structure fit. Criteria for 12–30-item

models with over 250 samples: Hair et al. (2010) recommends a chi-square (χ^2)/ degree of freedom (df) > 3, comparative fit index (CFI) of over 0.920, Tucker-Lewis index (TLI) of over 0.920, root mean square error of approximation (RMSEA) of less than 0.070, and standardized root mean square residual (SRMR) of less than 0.080. A cutoff value of 0.700 was used to assess Cronbach alpha reliability (α) (Fornell & Larcker, 1981), while 0.600 was used to evaluate composite reliability (CR) (Hair et al., 2010). AVE value was cut off at 0.500 (Bagozzi & Yi, 1988). Items with low factor loadings that did not match the requirements were excluded during this phase. Table 1 shows Confirmatory Factor Analysis (CFA) measures validity and reliability. The constructs of BV, AV, and EV comprised four, three, and three items, respectively. AR consisted of six items, while GC and WS included five and four items, respectively. In total, the research model contained 25 observed variables. The model fit indices indicated a good fit to the data obtained from the survey responses of 603 participants: $\chi^2 = 751.645$, df = 260, CFI = 0.956, TLI = 0.949, RMSEA = 0.056, and SRMR = 0.039. KMO values were 0.736–0.890, indicating an appropriate sample for factor analysis. All constructs had robust internal consistency, with Cronbach's alpha coefficients ranging from 0.867 to 0.916, above the acceptable 0.7. CR scores (0.868–0.916) above 0.6, indicating good construct dependability. Average variance extracted (AVE) values (0.619–0.749) exceeded 0.5, indicating convergent validity.

In Table 2, two methods validated the discriminant validity of the measurement model. The Fornell-Larcker criterion (Fornell & Larcker, 1981) indicated that all AVE square roots, ranging from 0.787 to 0.865, surpassed their respective correlation coefficients. The CICFA method (Rönkkö & Cho, 2022) indicated that all upper-bound coefficients (ranging from 0.108 to 0.824) were consistently below the 0.900 threshold. The results confirm the distinctiveness of each construct, thereby validating the measurement model utilized for structural equation modeling analysis.

Table 1. Confirmatory factor analysis (n = 603) (Notes: β = standardized factor loadings, t-value is significant at **p<0.001)

Constructs	Items	β	t-value	CR	AVE
Biospheric value ($\alpha = 0.886$, KMO = 0.834)				0.887	0.664
	You protect the environment and preserve nature.	0.852	58.133**		
	You conserve natural resources and prevent pollution.	0.818	49.501**		
	You feel a sense of oneness with nature and live in harmony with it.	0.807	46.721**		
	You respect the Earth and live in harmony with other living beings.	0.781	41.768**		
Altruistic value ($\alpha = 0.867$, KMO = 0.736)				0.868	0.687
	You support social justice and helping the vulnerable.	0.879	59.345**		
	You value equality and equal opportunities for everyone.	0.804	43.699**		
	You desire a peaceful world, free from war and conflict.	0.802	43.838**		
Egoistic value ($\alpha = 0.898$, KMO = 0.742)				0.899	0.749
	You have influence over others, society, and various events.	0.899	70.277**		
	You have a desire for power and the right to lead or command.	0.894	69.096**		
	You value social power and controlling others.	0.800	46.152**		
Ascribed responsibility ($\alpha = 0.906$, KMO = 0.893)				0.907	0.619
	You feel a sense of responsibility for the environmental impacts of tourism.	0.852	62.522**		
	You are responsible for conserving energy and reducing waste while traveling.	0.818	52.606**		
	You take partial responsibility for environmental problems that may result from tourism activities.	0.806	48.817**		
	You believe that tourists like yourself share responsibility with local authorities and businesses in reducing environmental impacts at tourist destinations.	0.751	37.892**		
	You help conserve energy and reduce waste during travel, which benefits the environment.	0.751	37.668**		
	As a tourist, you have a responsibility to reduce environmental impacts.	0.735	35.640**		
Green consumption value ($\alpha = 0.916$, KMO = 0.890)				0.916	0.686
	While traveling, you are concerned about the overuse of the Earth's resources.	0.854	64.797**		
	You often consider the potential environmental impact of your travel activities.	0.834	57.895**		
	Your concern for the environment influences your travel behavior.	0.822	53.978**		
	You would describe yourself as an environmentally responsible person.	0.821	53.807**		
	You are willing to sacrifice convenience if it means the activity is more environmentally friendly.	0.811	51.085**		
Willingness to sacrifice ($\alpha = 0.914$, KMO = 0.837)				0.915	0.729
	You are willing to pay more for travel if it helps protect the environment.	0.900	87.370**		
	You are willing to pay more to stay at environmentally friendly accommodations.	0.874	73.752**		
	You are willing to purchase environmentally friendly tourism products, even if they are more expensive.	0.857	66.083**		
	You are willing to use environmentally friendly transportation, even if it is more expensive.	0.782	43.752**		

Table 2. Discriminant validity (Note: The diagonal values in bold represent the square roots of AVE. Italicized figures in the upper right triangle display the correlation coefficients between latent constructs. The lower left triangle contains correlation values of latent constructs at the 2.5% lower/upper confidence bounds.)

	BV	AV	EV	AR	GC	WS
Biospheric value	0.815	0.568	0.342	0.700	0.615	0.543
Altruistic value	[.502,.633]	0.829	0.018	0.686	0.371	0.326
Egoistic value	[.263,.422]	[-.072,.108]	0.865	0.269	0.448	0.468
Ascribed responsibility	[.650,.750]	[.633,.739]	[.187,.352]	0.787	0.679	0.604
Green consumption value	[.556,.674]	[.293,.450]	[.377,.520]	[.627,.730]	0.828	0.785
Willingness to sacrifice	[.478,.608]	[.246,.407]	[.398,.538]	[.545,.662]	[.747,.824]	0.854

Structural model

A structural model analysis was employed to confirm the relationships between variables. The model demonstrated acceptable fit indices ($\chi^2 = 703.258$, $df = 259$, $CFI = 0.960$, $TLI = 0.954$, $RMSEA = 0.053$, $SRMR = 0.040$). As shown in Table 3 and Figure 3, the results confirmed the effects of BV, AV, and EV on AR (H1a: $\beta = 0.387^{**}$; H1b: $\beta = 0.479^{**}$; H1c: $\beta = 0.112^{**}$). Additionally, AR significantly influenced GC (H2: $\beta = 0.580^{**}$), which in turn affected WS (H3: $\beta = 0.613^{**}$). The indirect effects of BV, AV, and EV on WS through the mediating variables AR and GC were found to be significant in this study. Additionally, a 10,000 bootstrap resampling test with 2.5% confidence intervals (lower-upper bound) was conducted. The confidence intervals excluding zero confirmed the serial mediating roles of AR and GC in the relationship between personal value and willingness to sacrifice (H4a: $\beta = 0.138^{**}$, [0.074, 0.201]; H4b: $\beta = 0.170^{**}$, [0.099, 0.242]; H4c: $\beta = 0.040^{*}$, [0.012, 0.067]).

Table 3. The structural model hypothesis conclusion (Note: β = Path coefficient, $^{**} = p < 0.001$, $^{*} = p < 0.01$)

Hypotheses	β	t-values	Results
H1a: BV $\rightarrow$ AR	0.387	8.760 ^{**}	Accepted
H1b: AV $\rightarrow$ AR	0.479	11.837 ^{**}	Accepted
H1c: EV $\rightarrow$ AR	0.112	3.165 ^{**}	Accepted
H2: AR $\rightarrow$ GC	0.580	9.763 ^{**}	Accepted
H3: GC $\rightarrow$ WS	0.613	13.073 ^{**}	Accepted
H4a: BV $\rightarrow$ AR $\rightarrow$ GC $\rightarrow$ WS	0.138	5.897 ^{**}	Accepted
H4b: AV $\rightarrow$ AR $\rightarrow$ GC $\rightarrow$ WS	0.170	6.204 ^{**}	Accepted
H4c: EV $\rightarrow$ AR $\rightarrow$ GC $\rightarrow$ WS	0.040	2.949 [*]	Accepted
H5: EV $\times$ AR $\rightarrow$ GC	-0.185	-0.573	Rejected
H6: EV $\times$ GC $\rightarrow$ WS	0.769	3.534 ^{**}	Accepted

Moderating role analysis

In this process, the moderating role of EV was tested using the interaction technique. The analysis examined the interaction term between EV and AR affecting GC, as well as the interaction between EV and GC affecting WS. As exhibited in Table 3 and Figure 4, the results show the non-significant effect of EV that moderates the relationship between AR and GC (H5: $\beta = -0.185$). The lines shown in the left graph are roughly parallel rather than diverging significantly, which visually confirms the statistical finding of non-significance. This means that while AR does influence GC, the strength of this relationship is not meaningfully altered by whether a person has high or low egoistic values. However, it was found to significantly moderate the relationship between GC and WS (H6: $\beta = 0.769^{**}$). The intersecting lines in the right graph indicate a significant interaction effect: for individuals with low EV, an increase in GC leads to a decrease in WS. Conversely, for individuals with elevated EV, a significant rise in GC leads to a marked increase in WS.

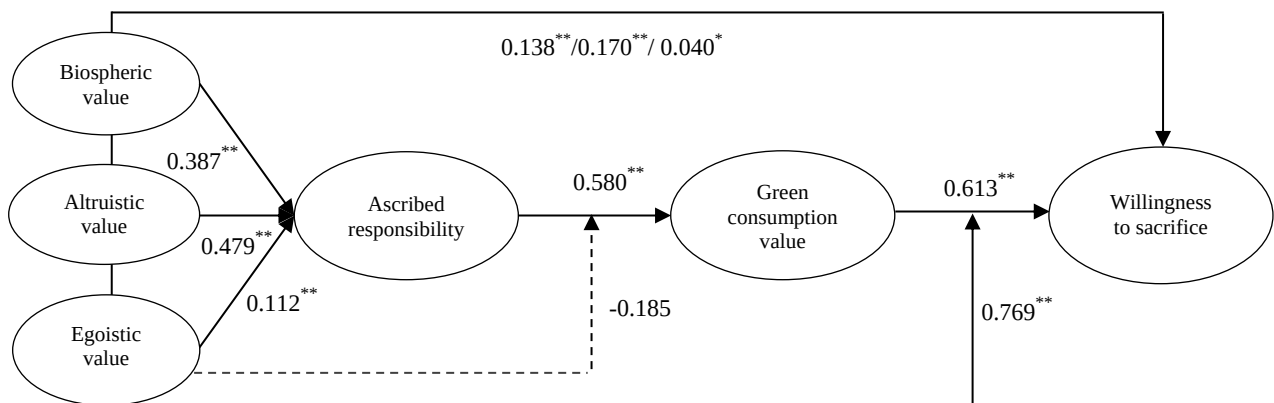


Figure 3. Structural model

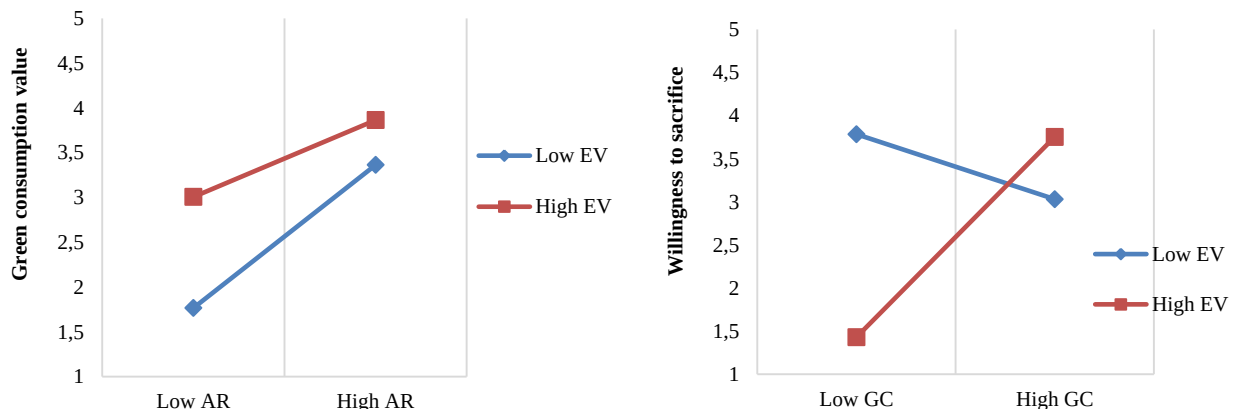


Figure 4. Moderating roles of EV on the relationship of AR on GC, and GC on WS

DISCUSSION

The findings of this study indicate that biospheric, altruistic, and egoistic values strongly influenced ascribed responsibility, although the extent of their influence differs among these values. Altruistic values demonstrated the greatest impact ($\beta = 0.479$), with biospheric values following closely behind ($\beta = 0.387$), while egoistic values displayed the least influence ($\beta = 0.112$). The findings are consistent with the VBN theory, which elucidates the connection between values and environmental beliefs (Stern, 2000). The theory posits that biospheric (BV), altruistic (AV), and egoistic values (EV) directly influence individuals' environmental beliefs. The findings indicate that AV, which reflects concern for the environment on behalf of others, acts as a key driver for motivating tourists' sense of environmental responsibility, aligning with the research of Lei et al. (2020) and Waris et al. (2024).

Tourists also exhibit BV, reflecting their concern for nature, supported by Han & Hyun (2018) and Landon et al. (2018), who showed that BV has a significant impact on participation in environmentally conscious practices. Furthermore, while egoistic motivations tend to focus on the self, they can still have a beneficial impact on pro-environmental attitudes when sustainability coincides with individual interests (Lou et al., 2024; Waris et al., 2024).

The effect of AR influencing GC ($\beta = 0.580$) suggests that travellers who take environmental responsibility make greener selections. This finding stimulates tourist personal norms (Meng et al., 2020). Green consumption values strongly impact willingness to sacrifice ($\beta = 0.613$), indicating environmentally conscientious consumers' willingness to sacrifice for environmental benefits. This reflects earlier studies showing that travellers who have environmental consciousness are willing to sacrifice comfort or pay more for green-certified hotels (Han et al., 2021).

Green consumption values directly affect travellers' willingness to pay more or have fewer facilities to support ecologically responsible rural tourism locations (Hu et al., 2021). Recent evidence confirms the role of environmental values in encouraging sustainable consumer behavior (Demir et al., 2021). The serial mediation analysis demonstrates that ascribed responsibility and green consumption values play a significant role in mediating the relationship between personal values and willingness to sacrifice across all value orientations. This finding is consistent with Kiatkawsin et al. (2020), who emphasized AR as a crucial motivational connection between values and environmentally responsible behavior. Likewise, Dong et al. (2024) discovered that ascribed responsibility and personal norms acted as mediators in the relationship between personal values and tourists' intention to visit green hotels.

Chua et al. (2020) strengthened these findings by affirming both direct and mediating effects of personal values on environmental behavior, especially through environmental beliefs and pro-environmental personal norms, highlighting these beliefs also indirectly affect behavior through norms. Egoistic values did not significantly modify the relationship between AR and GC ($\beta = -0.185$), suggesting that individuals' environmental responsibility promotes green consumption regardless of self-interest. However, EV moderates the relationship between GC and WS ($\beta = 0.769$). Tourists who held stronger egoistic values tended to sacrifice more as their green consumption values rose, whereas those with lesser values exhibited the opposite behavior. This finding is consistent with earlier studies indicating that egoistic principles can promote pro-environmental attitudes and behaviors when they coincide with self-interest (Lou et al., 2024). This may imply that persons who place a high value on their own interests are likely to cooperate when it meets their goals or expectations. Studies indicate that concerns about social status and the desire to enhance one's reputation, an individual's greater preference for green products is boosted (Griskevicius et al., 2010).

Additionally, a heightened awareness of public image, characterised by high face consciousness, has been linked to increased sustainable consumption among those who hold egoistic values (Li et al., 2021).

CONCLUSION

Theoretical Contribution

This study builds on the Value-Belief-Norm (VBN) theory by showing how important biospheric, altruistic, and egoistic values are for environmental responsibility, and it showed that these values affect green consumption and the willingness to make sacrifices. As shown in Figure 4, the study's theoretical contribution is presented.

The VBN model's sequential connection among values, beliefs, and norms is supported, highlighting the significance of altruistic motivations in sustainable tourism contexts. Moreover, integrating theory of consumption values demonstrates that green consumption values serve as a crucial psychological link between environmental responsibility and the willingness to make sacrifices in behavior. The moderating role of EV indicates that self-interest may positively interact with environmental commitments under specific conditions. These findings support those self-centered values, instead of just hindering sustainability efforts, can actually encourage environmentally friendly behaviors in certain situations.

Managerial implications

The results provide substantial insights for destination managers seeking to promote environmentally sustainable tourism in both domestic and international coastal destination. Figure 5 depicts the managerial implication. First, communication strategies should focus on altruistic and biospheric appeals by showcasing the advantages of tourism activities for local communities and their conservation of environment. Such initiatives can involve storytelling and public relation about tourist environmental support directly strengthens local conservation efforts highlighting the beneficial effects of responsible tourism. Furthermore, to enhance the promotion of green consumption values, destination managers might consider establishing eco-friendly campaign toward green practices for tourism related businesses. Additionally, since focusing on personal benefits can encourage people to act in ways that help the environment, destination managers should show sustainable tourism options as chances for tourists to gain personal status, recognition, or unique experiences

by making eco-friendly choices. Such strategies may include designing visually appealing "green tourist" photo spots, providing certification programs that grant visitors personalized sustainability certificates, or creating exclusive eco-experiences for those engaged in conservation efforts. This can successfully attract tourists driven by individual interests.

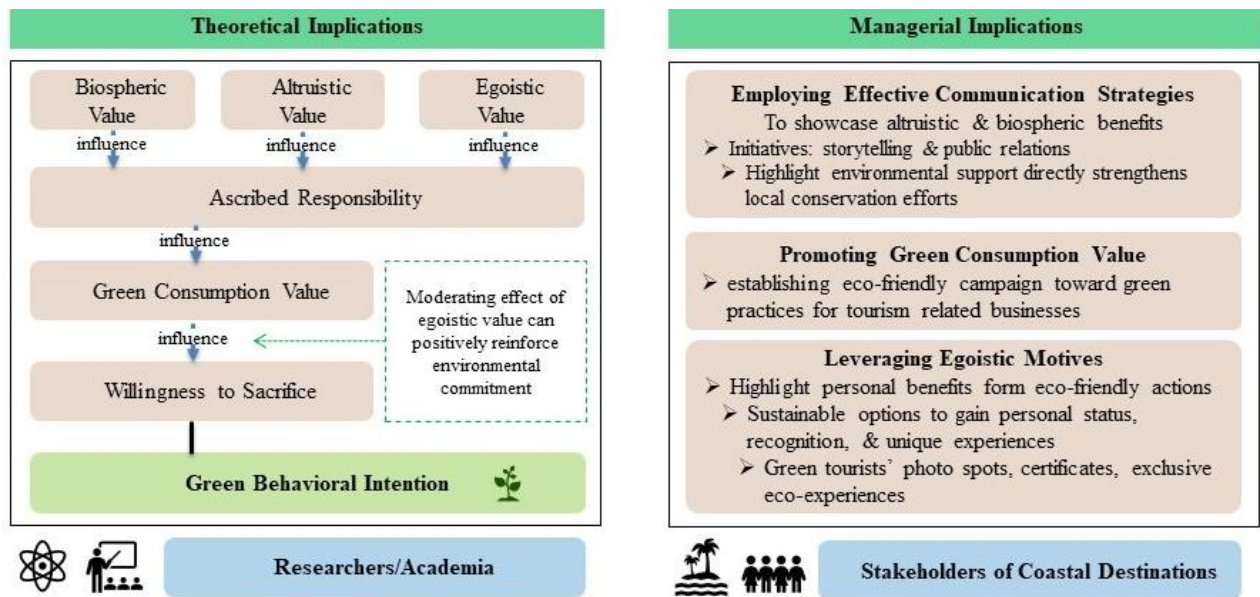


Figure 5. Conceptualization of the theoretical contribution and the managerial implication

Future Research Directions

This study has several limitations. First, it targeted Thai travelers in Thailand's Eastern Economic Corridor. Future research could encompass varied geographic or cultural circumstances to test the conclusions more broadly. Second, while this study specifically examined personal values (BV, AV, and EV), other value factors such as hedonistic, collectivistic, and psychological values, as well as other antecedents, could be important for investigating their effects on green behavior. Third, this study used self-reported data, thus future research might use behavioral observation or scenario-based experimental methods to investigate travelers' environmental sustainability considerations. Such methodologies would support self-reported intentions and show how values and norms promote environmental behavior. Additionally, this research utilized an exclusively quantitative methodology without incorporating key stakeholder viewpoints that might provide more insights. Future research would benefit from employing mixed-methods approaches, including qualitative studies to explore in-depth perspective and experiences, to examine more thoroughly both tourists' and industry stakeholders' perceptions regarding the adoption of pro-environmental behaviors in green tourism contexts.

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