

Loyalty Dynamics in Mangrove Ecotourism: Exploring the Influence of Attitudes, Perceived Benefits, Costs, and Environmental Concern

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ABSTRACT

Tourists' environmental concern acts as a catalyst, fostering a green attitude and elevating ecotourism as a primary attraction. Indonesia's vast mangrove forests offer unique opportunities for ecotourism development, given their rich biodiversity and critical role in oxygen production. This study aims to explore the intricate relationship between mangrove ecotourism and tourists' loyalty intentions and behaviors, focusing on Millennials (Gen Y) and Generation Z in urban centers like Batam City, Tanjungpinang City, and Bintan Regency in the Riau Islands Province. Utilizing quantitative methods, data from 420 respondents were collected via electronic surveys and analyzed using Structural Equation Modeling (SEM) with SmartPLS software. The findings highlight significant relationships: perceived cost and environmental concern strongly influence tourists' green attitude while perceived benefits do not directly impact it. Perceived benefits, perceived costs, and green attitudes significantly shape loyalty intentions, with environmental concern emerging as a key driver. Additionally, loyalty intentions significantly impact perceived benefits, green attitudes, and perceived costs. Although environmental concern, perceived benefits, perceived costs, and green attitude have a significant influence on loyalty behavior, their impact is indirect. This suggests a nuanced interplay among these variables in shaping tourists' behavior in the mangrove ecotourism context, underscoring the complex dynamics at play in sustainable tourism development.

KEYWORDS

Ecotourism
Mangrove
Loyalty Behavior
Loyalty Intention
Green Attitude

INTRODUCTION

Ecotourism, defined by the World Conservation Union, offers travelers the opportunity to explore pristine environments while promoting cultural appreciation and environmental conservation (Hulm, 1997). This form of tourism, standardized internationally by agendas like the National Ecotourism Accreditation Program (NEAP), emphasizes experiences that deepen understanding and support for the natural world (Pfeiffer & Morley, 2014). The International Ecotourism Society (TIES) provides multiple perspectives on ecotourism, including product-based, market-based, and development method-based approaches (Arida, 2017).

In recent years, ecotourism has experienced significant growth, contributing substantially to the global economy, tourism market, and employment rates (Quynh et al., 2021). With approximately one-third of global tourists now visiting ecotourism destinations, Indonesia has emerged as a

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prominent hotspot due to its diverse natural ecosystems (Chiu et al., 2014; Pahlevi & Suhartanto, 2020; Suhartanto, Dean, et al., 2022). This surge in ecotourism reflects a shifting preference away from conventional tourism practices towards sustainable and environmentally conscious travel experiences (Arida, 2017).

Mangrove ecosystems play crucial roles in coastal protection, biodiversity conservation, and climate change mitigation (Singgalen, 2020). Covering approximately 20% of Indonesia's land area, mangroves support coastal communities and sequester carbon dioxide from the atmosphere, thereby combating global warming (Kehutanan, 2021; Pendleton et al., 2012). Despite their ecological significance, mangrove forests face threats from urbanization and industrialization, highlighting the need for sustainable management strategies (Nyangoko Baraka, 2022; Vipriyanti et al., 2022).

Utilizing mangroves for ecotourism presents a promising solution for balancing economic development with environmental preservation (Sukuryadi et al., 2021; Safarabadi, 2016). By offering tourists immersive experiences in mangrove ecosystems, this approach generates economic benefits while fostering appreciation and stewardship for these critical habitats (Sukuryadi et al., 2021; Safarabadi, 2016). Transforming mangrove forests into tourist destinations aligns with the principles of sustainable tourism, promoting conservation efforts and community involvement (Sukuryadi et al., 2021; Safarabadi, 2016).

This study aims to investigate tourist loyalty to mangrove ecotourism in Batam, Tanjungpinang, and Bintan Regency, Indonesia, focusing on factors such as perceived benefits, perceived costs, environmental concerns, and green attitudes. Specifically targeting Indonesian youth, including Millennials (Generation Y) and Generation Z, this study reflects their growing environmental awareness and their significance as a key demographic for the tourism industry (Jahari et al., 2022; Suhartanto, Kartikasari, et al., 2022; Ketter, 2020). Understanding the preferences and motivations of these demographics can inform strategies for sustainable ecotourism development in mangrove areas.

LITERATURE REVIEW

Loyalty Behavior

Understanding the dynamics of tourist loyalty behavior is paramount to achieving sustainable growth and support for tourist destinations. According to Kotler et al. (2017), loyalty behavior is not a monolithic concept but rather encompasses a myriad of actions aimed at enhancing value, encouraging repeat visits, and actively sharing experiences with others. These actions, as noted by Oliver (1999b), are driven by a deep-seated desire among tourists, not only to revisit but also to advocate for products or services in the future. Loyal tourists, therefore, emerge as pivotal players in the realm of destination marketing efforts, often constituting a core market segment.

In dissecting loyalty, researchers often traverse two distinct avenues: behavior and attitude. Although behavioral loyalty, gauged through metrics like visit frequency, provides valuable insights, it is often critiqued for its narrow focus, as highlighted by Suhartanto et al. (2021). Conversely, the attitude approach plunges into the realm of loyalty intention, capturing tourists' profound inclination towards future purchases and recommendations (Almeida-Santana & Moreno-Gil, 2018). This approach extends beyond mere purchase intent, encapsulating observable actions like recommending products or destinations to others, as elucidated by Yoon & Uysal (2005).

Loyalty Intention

At the crux of loyalty lies intention—a perceptual measure of satisfaction that is translated into tangible behaviors (Oliver, 1999a). This intention embodies customers or tourists expressing consistent desires to revisit or recommend a product or service (Cong, 2016). Mohamad et al. (2012) underscored that tourists' satisfaction with their travel experiences forms the bedrock of loyalty intention, compelling them to return to destinations and share positive feedback with their peers. Loyalty, therefore, transcends mere intention to purchase; it involves tangible actions like recommending and repurchasing, in spite of price fluctuations (Yoon & Uysal, 2005). Building upon these nuanced insights, the hypothesis in the context of mangrove ecotourism emerges:

H₁: Loyalty intention positively influences loyalty behavior.

This assertion suggests that tourists inclined towards revisiting and advocating for mangrove ecotourism destinations play a pivotal role in fostering sustained engagement and support, which are indispensable for the long-term viability of such initiatives.

Green Attitudes

The term "attitude" encompasses the nuanced evaluation an individual makes toward certain behaviors, whether this evaluation leans favorably or unfavorably (Ajzen & Fishbein, 2004). When it comes to environmental concerns, this evaluation extends to what is termed "green attitude," which reflects an individual's consistent inclination toward both positive and negative aspects related to environmental issues (Zaremohzzabieh et al., 2021). Understanding one's green attitude is pivotal as it serves as a compass that guides future behavior toward environmentally friendly products and practices (Nekmahmud et al., 2022; Zaremohzzabieh et al., 2021).

In today's context, particularly among young people, environmental consciousness is increasingly prominent across various spheres, be it products or services. The formation of an individual's green attitude is deeply influenced by their level of environmental knowledge and the extent of their environmental concern (Suhartanto, Dean, et al., 2022). Those characterized by a green attitude are inherently environmentally conscious, displaying sensitivity to environmental issues and their potential impacts on attitudes and behaviors (Wang et al., 2020). Essentially, a green attitude translates into proactive behavior aimed at preserving and upholding environmental sustainability. Building upon the understanding of green attitudes, the hypothesis in the context of mangrove ecotourism is formulated as follows:

H₂: Green attitudes positively influence loyalty intention.

This hypothesis posits that individuals with a strong green attitude, characterized by environmental consciousness and proactive engagement, are more likely to exhibit intentions of loyalty toward mangrove ecotourism initiatives. Their inherent inclination toward environmental preservation aligns with the ethos of ecotourism, fostering a deeper commitment to support and advocate for such endeavors.

Social Exchange Theory

Social exchange theory, initially proposed by Homans in 1958, delves into the intricacies of individual social behavior, emphasizing the interplay between perceived costs and perceived benefits (Homans, 1958). In essence, individuals engage in transactions, whether social or economic, based on the expectation of maximizing benefits while minimizing costs. This theory forms the bedrock for understanding consumer behavior within the tourism domain (Çelik & Rasoolimanesh, 2021; Lee & Cunningham, 2001; Seow et al., 2017).

Perceived Benefits

The success of any tourism product hinges significantly upon the perceived value it offers, particularly in terms of psychological satisfaction for consumers or tourists (Bowie & Buttle, 2004). In the realm of ecotourism, this concept gains heightened importance as it faces substantial challenges in maintaining sustainability, thereby placing a premium on the perceived ecological benefits it provides (Thapa & Lee, 2017). Consequently, ecotourism endeavors must strike a delicate balance, delivering enjoyable recreational experiences to tourists while concurrently safeguarding the ecological integrity of the destinations (Wolf et al., 2017).

Perceived benefits are intricately intertwined with consumer behavior, often serving as predictors of behavioral intentions (Cronin et al., 2000). Thus, the measurement of perceived benefits holds significant implications for the tourism industry, offering insights into consumer preferences and decision-making processes (Petrick, 2002). These benefits and costs are evaluated through cognitive (economic) and affective (emotional) assessments based on tourists' experiences, forming the basis of their perceived value (Sánchez-Fernández & Iniesta-Bonillo, 2009). In the context of mangrove ecotourism, the following hypotheses are posited:

H₃: Perceived benefits exert a direct positive influence on green attitudes.

This hypothesis suggests that the perceived ecological benefits derived from mangrove ecotourism experiences contribute positively to individuals' green attitudes, fostering a deeper sense of environmental consciousness and stewardship.

H₄: Perceived benefits exert a direct positive influence on loyalty intention.

This hypothesis proposes that the perceived benefits associated with mangrove ecotourism activities lead to a heightened intention among tourists to exhibit loyalty toward such initiatives. The positive experiences and values derived from ecotourism engagements foster a sense of commitment and attachment, driving intentions for repeat visits and advocacy.

Perceived Costs

In the realm of mangrove ecotourism, the perceived costs borne by visitors seem to hold little concern, even with potential increases, owing to their awareness of the associated benefits (Diswandi and Saptutyningasih, 2019). However, it is important to recognize that these perceived costs wield significant influence over overall satisfaction levels, acting as key indicators of visitors' intentions to revisit or recommend other ecotourism destinations (Carvache-Franco et al., 2020).

Perceived costs play a pivotal role in shaping the perceived value of tourism experiences, encompassing various facets such as service quality, emotional resonance, and social aspects (Chiu et al., 2014). They are essentially the feelings or impressions that arise from the expenses incurred in acquiring goods or services. In the context of mangrove ecotourism, the following hypotheses emerge:

H₅: Perceived costs exert a direct negative effect on green attitudes.

This hypothesis posits that higher perceived costs diminish visitors' environmental consciousness and commitment to sustainable practices.

H₆: Perceived costs exert a direct negative effect on loyalty intention.

This hypothesis suggests that as perceived costs increase, visitors' intentions to revisit or advocate for the destination decrease, impacting overall loyalty behaviors.

Environmental Concern

Environmental concern theory, as proposed by Hackett (1993), underscores the pivotal role of human apprehension for environmental health in driving initiatives for environmental protection. This concern emanates from a collective unease regarding the future quality of air, water, and soil, largely attributed to human activities (Wang et al., 2020). Essentially, environmental concern denotes an individual's attitude and behavior toward green products, shaped by their understanding and respect for environmental issues (Zaremohzzabieh et al., 2021). As awareness of environmental impacts grows, individuals become increasingly cognizant of the importance of responsible consumption, thereby fueling the demand for green products (Yang et al., 2021).

Tourists who harbor environmental concerns are poised to make a positive impact, driving their inclination to purchase ecotourism products (Albayrak et al., 2013). This awareness of environmental issues is intricately linked to ecotourism behavior, with environmentally conscious tourists demonstrating a preference for ecotourism experiences (Nik Abdul Rashid, 2009). Notably, environmental concern manifests as a personal commitment to contribute positively to solving environmental problems, signifying an individual's awareness, care, and cautiousness toward environmental preservation (Kirmani & Khan, 2016).

Furthermore, environmental concern mirrors consumers' sense of responsibility toward addressing environmental challenges, aiming not only to enhance environmental quality but also to bolster consumer loyalty (Truong & Nguyen, 2020). This concern can catalyze behavior change, driving environmentally friendly purchasing decisions and fostering a shift towards sustainable practices (do Paço & Raposo, 2009). In the tourism context, environmentally conscious tourists actively seek out accommodations and destinations that align with their values, promoting hotels with eco-friendly practices and supporting initiatives aimed at environmental preservation (Manaktola & Jauhari, 2007).

Environmental concern is a fundamental determinant of individual attitudes and behaviors, directly impacting perceptions of ecotourism and influencing intentions to engage in environmentally friendly practices (Bamberg, 2003; Gilg et al., 2005). As such, it serves as a critical variable in understanding tourist behavior in ecotourism contexts. Consequently, in the context of mangrove ecotourism, the following hypotheses are posited:

H₇: Environmental concern has a direct positive effect on green attitudes.

H₈: Environmental concern has a direct positive effect on perceived benefits.

H₉: Environmental concern has a direct positive effect on perceived costs.

The associations between the construct variables are depicted in Figure 1.

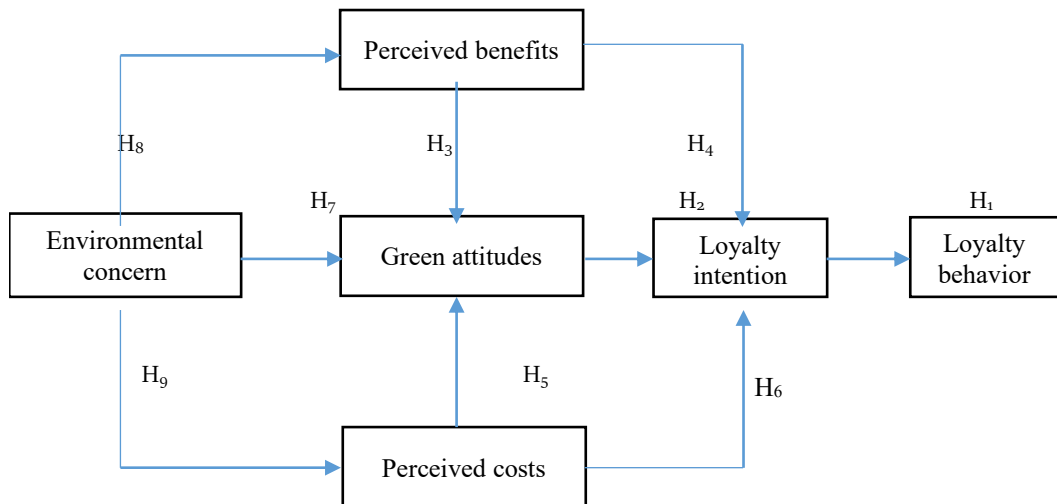


Figure 1. The proposed model

RESEARCH METHOD

The research on mangrove ecotourism was conducted across the cities of Batam and Tanjungpinang, along with Bintan Regency, Indonesia. These three destinations were chosen due to their renowned mangrove forests with well-established ecotourism concepts, making them prime locations for the study. Additionally, they attract the highest number of both domestic and international tourists in the Riau Islands Province. The selection of these specific locations was strategic, aiming to capture a comprehensive understanding of mangrove ecotourism within the region. By focusing on areas known for their ecological richness and tourist appeal, the research seeks to gather insights that are reflective of broader trends and patterns in mangrove ecotourism development and visitor experiences.

Table 1 outlines the variables utilized in this study, drawing from existing literature on environmental sustainability. These variables were assessed using a five-point Likert scale, ranging from "1: strongly disagree" to "5: strongly agree." To ensure the questionnaire's alignment with the research objectives, it underwent consultation with three ecotourism experts.

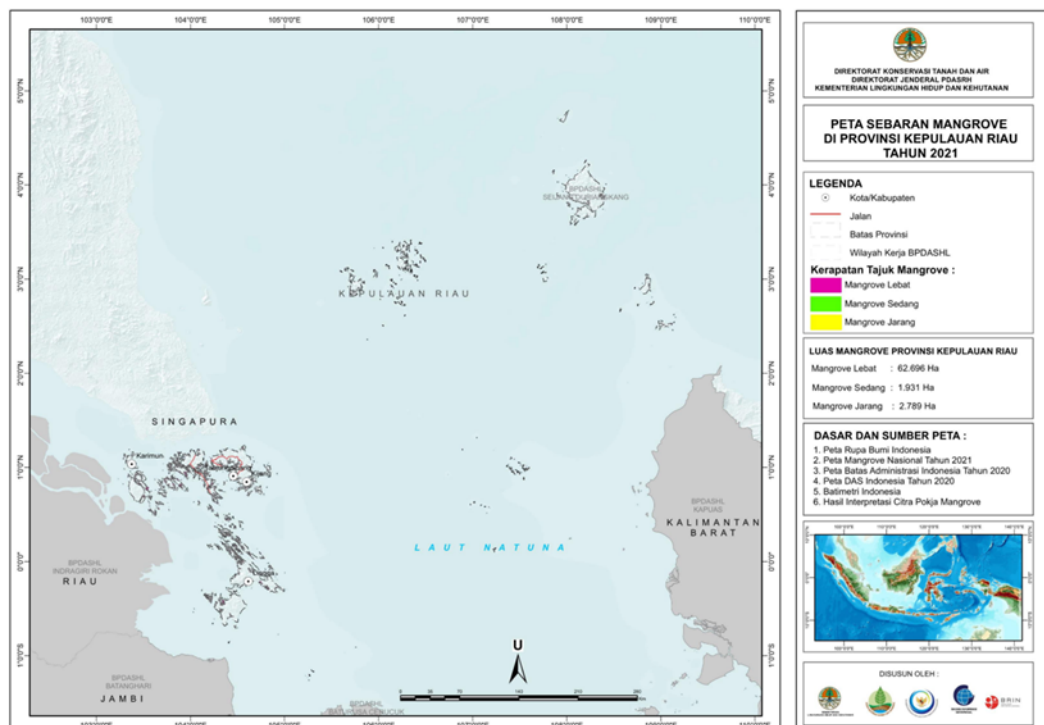
Prior to its implementation, the questionnaire underwent a trial phase involving 20 tourists who had previously visited mangrove ecotourism destinations. This trial aimed to assess the clarity and comprehensibility of the questionnaire's terms, instructions, and sentences, which were presented in Bahasa Indonesia. The findings from the trial indicated a high level of understanding among participants, confirming the effectiveness of the questionnaire in capturing relevant data for the research objectives.

The researchers directly gathered data from the primary source of the research locations. Non-probability sampling was employed, specifically utilizing the purposive sampling method. Primary data collection was carried out by distributing the questionnaire directly through Google Forms to

tourists who had previously visited mangrove ecotourism destinations within the Riau Islands Province, focusing on locations in Batam City, Tanjungpinang City, and Bintan Regency. This study targeted two generational cohorts: Generation Y, also known as Millennials, born between 1977-1994, and Generation Z, born between 1995-2010. Out of the 461 respondents initially identified, 420 provided complete responses, yielding a response rate of 91%. This sample size is deemed sufficient for the proposed model, given the indicator variables employed (J. E. Hair et al., 2017). Table 2 provides an overview of the demographic characteristics of the respondents

Table 1. Construct variables and sources

No	Variable	Sources
1	Environmental concern	(Bazazo et al., 2017; Suhartanto, Dean, et al., 2022)
2	Green attitudes	(Suhartanto, Dean, et al., 2022)
3	Perceived benefits	(H. Liu et al., 2021; Quynh et al., 2021; Suhartanto et al., 2020, 2021)
4	Perceived costs	(Bazazo et al., 2017; Suhartanto et al., 2020; Thapa & Lee, 2017)
5	Loyalty intention	(Quynh et al., 2021; Suhartanto, Dean, et al., 2022; Suhartanto et al., 2021)
6	Loyalty behavior	(Suhartanto, Dean, et al., 2022)



Source : Indonesia mangrove map (Kehutanan, 2021)

Figure 2. The location of the study

Table 2. Demographic characteristics

	Variable	Frequency	%
Gender	Male	275	65.5
	Female	145	34.5
Age	17-28 years	212	50.5
	29-46 years	208	49.5
Occupation	Student	141	33.6
	Civil servant	57	13.6
	Employee	128	30.5
	Entrepreneur	72	17.1
	Others	22	5.2
Education	High school	125	29.8
	Diploma	11	2.6
	Graduate	262	62.4
	Postgraduate	21	5.0
	Doctor	1	0.2

The data analysis method employed in this research was Partial Least Squares (PLS), a statistical analysis technique. PLS was utilized as a Structural Equation Modeling (SEM) model, employing a variance or component-based approach to structural equation modeling. The collected data from the field were subsequently processed using SEM with the SmartPLS version 3 software. This software facilitated the testing of hypothesized relationships derived from the proposed model. This method was selected due to the primary objective of the research, which is to validate the proposed model concerning tourists' attitudes toward mangrove ecotourism.

RESULTS

To evaluate the formulated hypotheses, a two-stage evaluation of the PLS-SEM approach was performed: a measurement model and a structural model.

Measurement Model Evaluation

The measurement model evaluation involved comprehensive tests to ensure internal consistency reliability, indicator reliability, convergent validity, and discriminant validity. The results are presented in Table 3. Internal consistency reliability was assessed through composite reliability (CR), with a cutoff value recommended to be over 0.7 (Hair et al., 2011). Indicator reliability was determined by the loading indicator value, which is ideally above 0.6. However, values above 0.4 were considered acceptable. Convergent validity was established when the average variance extracted (AVE) exceeded 0.5. This criterion indicates that the constructs' items are sufficiently related to the underlying latent construct.

Discriminant validity was assessed using the Fornell-Lacker criterion, where the square root of AVE for each construct should be greater than the correlations between the constructs. This criterion ensures that each construct is distinct from the others.

Upon evaluating the discriminant validity test, which compared the square root of AVE to the correlation values among latent variables, it was confirmed that the model met the criteria for

discriminant validity. Specifically, the square root of AVE for each construct was greater than the correlations between the constructs, indicating good discriminant validity (Kwong & Wong, 2013).

Table 3. Measurement model test results

Variable/Item	Loading	CR	AVE
Environmental concern		0.896	0.636
- I feel upset when I hear news/reports about environmental damage.	0.816		
- I realize the importance of the environment for the next generation.	0.884		
- Most people do not adopt an environmentally friendly lifestyle.	0.686		
- Ecotourism protects and enhances the natural environment.	0.879		
- Ecotourism increases awareness of environmental protection.	0.699		
Green attitudes		0.912	0.721
- I am glad to purchase environmentally friendly products.	0.857		
- I am willing to pay extra to purchase environmentally friendly products.	0.867		
- I prefer eco-friendly tourism over conventional tourism.	0.841		
- I believe ecotourism can preserve the environment.	0.830		
Perceived benefits		0.888	0.535
- For me, mangrove ecotourism is a healthy tourism.	0.745		
- For me, mangrove ecotourism is a good tourism.	0.761		
- By visiting mangrove ecotourism, I feel my mood becomes more positive.	0.761		
- By visiting mangrove ecotourism, I am happy to receive positive comments from others.	0.748		
- By visiting mangrove ecotourism, I gain knowledge about mangrove forests.	0.755		
- By visiting mangrove ecotourism, I learn new things during the ecotourism trip.	0.784		
- By visiting mangrove ecotourism, I feel that it is important to preserve the mangrove forest.	0.536		
Perceived costs		0.931	0.818
- For me, the entrance fee to the mangrove ecotourism is quite high.	0.828		
- For me, the package prices at the mangrove ecotourism are quite high.	0.945		
- For me, it takes quite an effort to visit the mangrove ecotourism.	0.936		
Loyalty intention		0.994	0.981
- I intend to revisit the mangrove ecotourism.	0.993		
- I intend to repurchase the mangrove ecotourism package even though it is expensive.	0.988		
- I intend to recommend the mangrove ecotourism to others.	0.991		
Loyalty behaviour			
- How many times have you visited the mangrove ecotourism site until now?	1.000	1.000	1.000

Structural Model

To comprehensively validate the Partial Least Squares (PLS) model, the Goodness of Fit (GoF) evaluation, suggested by Tenenhaus et al. (2005), was employed. The GoF value, ranging from 0 to 1, categorizes models as small (0-0.25), moderate (0.25-0.36), and large (above 0.36). In this study, the resulting GoF value of 0.54 fell within the large category, indicating good model quality. Model fit estimation was further assessed using the Standardized Root Mean Square Residual (SRMR) and the Normed Fit Index (NFI). While the SRMR value of 0.142 exceeded the recommended cut-off of 0.08, the NFI value of 0.594 met the criterion of >0.9. Although one value did not meet the criteria, the study still satisfied model fit requirements, enabling further analysis.

Furthermore, the f^2 value served as a useful tool in constructive analysis by predicting the R^2 value of endogenous constructs. According to J. F. Hair (2011), changes in the R^2 value, when certain exogenous constructs are removed from the model, can indicate whether these constructs have a significant effect on the endogenous constructs, making this measure known as effect size. The f^2 value categorizes effect size as small (0.02), moderate (0.15), and large (0.35). Effect sizes greater than 0.02 signify a notable impact. In this study, all variables demonstrated large effect size values on tourists' perceptions of mangrove ecotourism: environmental-friendly attitude (0.763), perceived costs (0.695), perceived benefits (0.538), and intention loyalty (0.631). However, behavioral loyalty (0.285) exhibited a moderate effect size on tourists' perceptions of mangrove ecotourism.

Path coefficient evaluation employed the bootstrapping method. For two-sided tests, t-values of 1.65 (significance level = 0.1/10%), 1.96 (significance level = 0.05/5%), and 2.58 (significance level = 0.01/1%) were utilized. The results (Table 4) indicated that Hypotheses H1 and H2 were accepted, demonstrating positive relationships. Conversely, H3 was rejected due to a negative effect. H4 was accepted while H5 and H6 were rejected as they exhibited positive effects contrary to the initial assumptions, leading to novelty in these hypotheses. Moreover, H7, H8, and H9 were accepted, indicating positive effects. These findings reveal the direct relationships between variables tested in the study, as presented in Table 4. Table 5 displays the total effect of determinant variables on loyalty intention and loyalty behavior.

Table 4. The results of hypotheses testing

Relationship (hypothesis)	β	t-value	Decision
Loyalty intention → loyalty behavior (H1)	0.534	15.008	Supported
Green attitudes → loyalty intention (H2)	0.405	5.286	Supported
Perceived benefits → green attitudes (H3)	0.059	1.210	Not supported
Perceived benefits → loyalty intention (H4)	0.254	5.206	Supported
Perceived costs → green attitudes (H5)	0.670	7.182	Not Supported
Perceived costs → loyalty intention (H6)	0.196	2.307	Not Supported
Environmental concern → green attitudes (H7)	0.179	2.406	Supported
Environmental concern → perceived benefits (H8)	0.733	28.414	Supported
Environmental concern → perceived costs (H9)	0.834	33.932	Supported

DISCUSSION

Firstly, this study unveils that the loyalty behavior attitude among young tourists in the mangrove ecotourism context is intricately linked to environmental concern, perceived benefits, perceived

costs, green attitudes, and loyalty intention. When amalgamated into one model, these variables construct a framework shaping tourists' loyalty attitudes in mangrove ecotourism. This discovery extends the existing model of green attitude loyalty (Nekmahmud et al., 2022; Zaremohzzabieh et al., 2021) into the realm of young tourists exploring mangrove ecotourism, shedding light on the significance of environmental concern and perceived costs in shaping their attitudes. Interestingly, while environmental concern and perceived costs play pivotal roles, perceived benefits do not wield a significant influence, perhaps owing to the diverse experiences each young tourist encounters.

Table 5. Total effect of determinant variables on loyalty intention and loyalty behavior

Determinant	Loyalty Intention		Loyalty Behavior	
	β	t-value	β	t-value
Green attitudes	0.405	5.286	0.216	5.180
Perceived benefits	0.254	5.206	0.148	4.913
Perceived costs	0.271	4.421	0.250	6.009
Environmental concern	0.667	31.393	0.356	12.003

Secondly, data analysis underscores the substantial impact of perceived benefits, perceived costs, and green attitudes on loyalty intention within mangrove ecotourism. This finding echoes previous research, such as Carvache-Franco et al. (2020) and Thapa and Lee (2017), suggesting positive responses among young tourists from the Millennial and Gen Z generations. These cohorts perceive ecotourism as beneficial, fostering an intention to remain loyal by revisiting and promoting mangrove ecotourism. Moreover, environmental concern emerges as a significant influencer, with young tourists opting for activities aligned with their environmental ethos, thereby nurturing loyalty intentions.

Thirdly, the examination of how perceived costs influence young tourists' attitudes towards mangrove ecotourism unveils intriguing findings. Contrary to past research (Carvache-Franco et al., 2020), which posited a positive effect, this study reveals a negative effect of perceived costs on variables like green attitudes, loyalty intention, and loyalty behavior. Young tourists appear unperturbed by the costs associated with visiting mangrove ecotourism sites compared to other tourist attractions. Despite entrance fees and travel expenses, their commitment to environmental preservation eclipses financial considerations, aligning with studies indicating the loyalty behavior in preserving nature.

Lastly, the total effect analysis reveals a profound awakening among young tourists regarding the imperative of conserving mangrove forests for both present and future generations. Their inclination to revisit, recommend, and champion mangrove ecotourism reflects a deeply rooted commitment to environmental stewardship (Wang et al., 2020). Notably, this commitment extends beyond mere intention, finding tangible expressions through active engagement, both on-site and online (Suhartanto, Dean, et al., 2022). Young tourists are not merely passive participants; rather, they emerge as fervent advocates, leveraging their social media platforms to amplify the message of ecological preservation. This symbiotic relationship between tourism experience and environmental consciousness heralds a promising shift in the paradigm of travel, wherein sustainability and enjoyment are no longer mutually exclusive but rather integral components of a holistic tourist experience. As young tourists embrace their role as custodians of nature, their actions resonate far beyond the confines of ecotourism sites, inspiring a broader movement towards sustainable travel practices.

MANAGERIAL IMPLICATION

Firstly, it's essential for both government entities and mangrove ecotourism managers to prioritize and promote green attitudes within mangrove ecotourism experiences. This can be achieved by integrating messages that highlight the environmental benefits of visiting mangrove ecotourism sites, thereby enhancing the perceptions of young tourists. Government agencies and ecotourism managers can focus on specific aspects of green attitudes and embed these messages into their management and marketing strategies. For instance, incorporating implicit messages like "Your Visit to Mangrove Ecotourism Sites Supports Nature Conservation" can effectively resonate with young tourists who are more attuned to environmental issues. Moreover, regulatory bodies at both central and regional levels should enforce stringent guidelines to ensure sustainable and eco-friendly tourism practices at mangrove ecotourism sites, safeguarding these vital ecosystems from potential harm caused by tourism activities.

Secondly, perceived benefits emerge as a critical factor shaping tourists' loyalty intentions and behaviors within mangrove ecotourism. Leveraging the perceived benefits effectively presents a compelling opportunity for fostering loyalty among visitors. These benefits encompass the satisfaction derived from positive experiences, learning opportunities, and the sense of contributing to nature conservation, prompting tourists to share positive feedback with their peers. From a marketing perspective, emphasizing these perceived benefits can significantly enhance tourists' loyalty to mangrove ecotourism destinations.

Lastly, proactive steps should be taken to capitalize on future opportunities and enhance marketing efforts for mangrove ecotourism. Utilizing both traditional print media and social media platforms owned by government agencies and ecotourism managers can effectively amplify marketing messages. Mangrove ecotourism can be positioned as an educational platform to raise awareness about the diverse flora and fauna inhabiting the ecosystem, fostering environmental concern among visitors. Additionally, organizing environmental awareness events and leveraging influencers can further stimulate interest in visiting mangrove ecotourism sites. Establishing partnerships with local government agencies and private entities to host regular activities at these sites can also contribute to enhancing visitors' experiences and fostering long-term loyalty towards mangrove ecotourism.

CONCLUSION, LIMITATION AND FUTURE RESEARCH

This research underscores the pivotal role of young tourists in mangrove ecotourism, revealing their distinctive green attitudes shaped by environmental concern and perceived costs. While perceived benefits play a lesser role due to individual experiences, young tourists' loyalty behavior towards mangrove ecotourism remains steadfast, evidenced by their revisits, recommendations, and voluntary promotions. These findings emphasize the urgent need to preserve mangrove forests as ecotourism sites, not only for conservation efforts but also for sustainable tourism development.

Despite its insights, this study has limitations. Its focus solely on Generation Y and Z may not fully represent the diverse spectrum of young tourists across Indonesia, warranting future studies to encompass varied geographic regions for broader insights. Additionally, the exclusion of other demographic groups like Generation X or baby boomers impedes a comprehensive understanding of attitudes toward mangrove ecotourism. Including foreign tourists in future research would offer invaluable perspectives for policymaking while exploring additional variables beyond environmental

concern and perceived benefits could enrich our understanding of tourists' behaviors in mangrove ecotourism contexts.

To address these limitations, future research endeavors could delve deeper into inter-generational differences and expand the scope to include foreign tourists. Incorporating variables such as consumption value, religion, and cultural values would provide a more nuanced understanding. By addressing these gaps, we can bolster the robustness and applicability of findings, paving the way for informed policy-making and sustainable practices in mangrove ecotourism.

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