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Determinants of Green Travel Intention: The Interplay of Green Marketing Strategies and Subjective Norms

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Abstract: With the increasing global emphasis on sustainability, understanding the factors influencing tourists' green travel intentions (GTI) has become a crucial area of research. This study examines the determinants of GTI, with a particular focus on environmental attitudes (ATE), subjective norms (SN), environmental concerns (EC), environmental knowledge (EK), and green marketing strategies (GM). The green marketing framework is further delineated into green services (GPR), green advertising (GPM), green distribution (GPL), and green pricing (GPC). A quantitative research design was employed, utilizing a structured survey administered to 600 tourists in Vietnam through convenience sampling. The findings reveal that both ATE and GM exert a significant influence on GTI. Moreover, ATE mediates the effects of GM, EC, and EK on GTI, highlighting its central role in shaping pro-environmental travel behavior. Additionally, SN is identified as a moderating factor in the relationship between ATE and GTI, indicating that societal influences reinforce the impact of individual ATE on green travel choices. These findings provide theoretical contributions by advancing the understanding of psychological and marketing-driven influences on sustainable tourism behavior. From a practical perspective, the results underscore the importance of well-structured green marketing initiatives in fostering environmentally responsible travel behavior. Tourism industry stakeholders are encouraged to integrate comprehensive GM that enhance environmental awareness and promote sustainable tourism practices. Future research directions are also proposed, including the examination of longitudinal behavioral changes and cross-cultural validations.

Keywords: Green travel intention (GTI); Green marketing strategies (GM); Environmental attitudes (ATE); Subjective norms (SN); Sustainable tourism behavior

1. Introduction

In the context of the current growing economy and society, the tourism industry has been affirming its important position, becoming one of the important industries that greatly influence the structure of the global economy (Roman et al., 2024). However, along with that is the increasing rate of environmental degradation and climate change (Acheampong & Opoku, 2023). Climate change and environmental pollution have affected the purpose of travel and the choice of tourism types of customers (Wang, 2015; Zhou et al., 2019). Therefore, the tourism industry plays a crucial role in adapting to and dealing with changes in climate and environment (Aman et al., 2021).

Previous studies showed that conventional tourism contributes 70% of CO_2 emissions from fuel combustion for accommodation, transportation, and land use to serve the tourism industry (Ahmad & Ma, 2021; Tang et al., 2017). Furthermore, according to Lenzen et al. (2018), tourism's activities also contribute around 8% of total greenhouse gas (GHG) emissions in the world, making the environmental pollution problem increasingly serious.

Vehicles used to travel during tourism, especially road and air traffic, are the main causes of pollution. According to research, road transport accounts for 72%, and air transport accounts for 11% (Henriques, 2020).

These figures show that the tourism industry is not only harmful to the environment but also becomes one of the main sources of air quality degradation. Therefore, promoting green tourism instead of conventional tourism plays a crucial role in increasing the attractiveness and competitiveness of businesses (OECD, 2022).

From the year 2024, the green tourism market is expected to increase from 260.76 billion USD in 2024 to 759.93 billion USD in 2032, with an annual growth rate (CARG) of 14.31% (Fortune Business Insights, 2024). According to statistics from Future Marketing Insight, the Vietnamese tourism market is expected to increase from 27.5 billion USD in 2023 to 135 billion USD in 2033 with a compound growth rate of 17.2% (Future Marketing Insight, 2023). According to the plan of the Vietnamese government, in 2024, the tourism industry will ultimately become green tourism, which is predicted to become a significant economic driver by 2045, making Vietnam a highly desired destination and one of the nations with the most muscular tourist development in Asia-Pacific. By 2045, the strategy aims to increase the tourism sector's contribution to 17–18% of GDP by achieving 70 million foreign arrivals and about 287 billion USD in tourist revenue (Viet Nam News, 2024). In addition, green tourism is also strongly related to 2 sustainable development goals: SDG-14 and SDG-15 to grow sustainability and protect the environment (UN Secretary-General, 2024). Then, green tourism can be seen as the key to sustainable development for the world's tourism industry, especially in Vietnam. To promote green travel behavior of tourists, raising customer awareness of environmental protection responsibility is currently a matter of great concern to business administrators in the tourism industry.

This study was conducted to help managers in the tourism industry adjust their marketing strategies in green tourism. The research objectives are to encourage tourists to choose green tourism and enhance the competitiveness of businesses in the context of increasing concern for sustainable development and environmental protection. The author employed the theory of planned behavior (TPB) and the attitude-behavior-context (ABC) theory in this study. Many previous studies have shown that attitudes are important in predicting environmentally friendly intentions in the TPB theoretical model. People with positive attitudes towards green products or services tend to have higher green consumption intentions (Le et al., 2024a; Le et al., 2024b). Besides, the ABC theory emphasizes the strong impact of context on an individual's behavior (Guagnano et al., 1995), and contextual factors are beneficial in bridging the intention - behavior gap (Wang et al., 2023). Some studies have integrated both of these theoretical frameworks to investigate consumer behaviors, such as sustainable consumption (Qin & Song, 2022), tourism (Wang et al., 2023), and environmentally friendly behavior (Ru et al., 2018).

The author refers to some articles related to tourism and green services to better understand green travel behavior. Previous studies showed that EK and concerns positively affect customers' green travel behavior (Fang et al., 2018; Ibnou-Laaroussi et al., 2020; Saari et al., 2021). Moreover, learning more about the impact of GM on green consumption intentions will help clarify customers' green consumption behavior (Alsheref et al., 2024; Inkinen et al., 2024; Jaiswal & Kant, 2018). Accordingly, this study aimed to respond to the call of (Alsheref et al., 2024; Inkinen et al., 2024) to study the impact of marketing on travel behavior, especially in sustainable tourism, as well as in the Asian market (Jaiswal & Kant, 2018). In addition, consumers could be influenced by friends, relatives, or surrounding messages when choosing a type of travel. Therefore, integrating SN into the model can help clarify the complexity of green purchasing (Rusyani et al., 2021). In the context of green tourism, this is one of the pioneering studies in finding the moderating effect of SN on the correlation between ATE and GTI. This study also applies the ABC theory and the TPB to explore the impact of green marketing on sustainable tourism behavior. The moderating role of SN has been demonstrated in some previous studies. However, this is the first time this factor has been explored in the context of green tourism. From there, this study reaffirms the suitability of ABC theory when combined with TPB.

This study would explore the correlations between ATE, EC, EK, GM and GTI, and the moderating impact of SN in the context of green tourism. In order to explore the correlations between these factors, the research questions are posed as follows:

RQ1: What are the relationships between ATE, EC, EK, GM and GTI?

RQ2: What are the roles of ATE and EC in the relationships between EK, EC, GM and GTI?

RQ3: What is the role of SN in the relationships between ATE, GM and GTI?

Answering the above questions would help the authors to examine the impact of factors on consumers' GTI. From there, the authors proposed managerial implications to help tourism businesses enhance consumers' green travel behavior. The research paper is structured in this order: the introduction about the context and research gap; the theoretical part introduces the background theory and research model; the research method; the results part and discussion of the research results; and the conclusion and implications.

2. Literature Review

2.1 Theories

2.1.1 TPB

In 1991, Ajzen built and modified the TPB theory from the theory of reasoned action (Ajzen & Fishbein, 1980).

According to Ajzen (1991), intention will capture the factors leading to an individual's intention depending on three factors: (1) Attitudes (ATE); (2) Perceived behavioral control (PBC); (3) SN. In Figure 1, ATE represents positive or negative readiness, which is the most crucial factor influencing an intention to act of individual. SN refers to the influence of the views and opinions of people around (such as colleagues, friends or family) on an individual's decisions and behavior; PBC represents the extent to which a person believes they can perform a behavior, which is related to internal resources (skills, personal abilities) and external resources such as real-life conditions that support or hinder the behavior (Ajzen, 1991). Previous studies applied the TPB to green behavior, such as exploring green buying behavior (Le et al., 2024a; Le et al., 2024b) or green tourism (Lita et al., 2014; Schönherr & Pikkemaat, 2024; Winton, 2023). In this study, the TPB is employed to explain how the ATE and SN impact on GTI. Additionally, GM, EC, and EK can also act as background factors in the TPB.

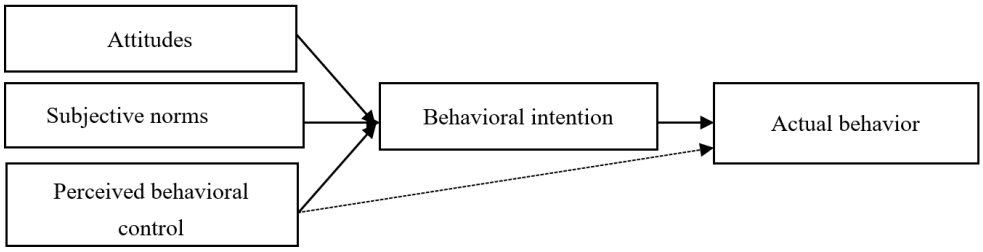

Figure 1. TPB

2.1.2 ABC theory

PMT theory, developed by Rogers (1975), explains the cognitive mediation of behavioral change through threat. The ABC theory has become an important theory for explaining the relationship between individual attitudes, intentions, and the context in which those intentions are carried out (Guagnano et al., 1995). This theory emphasizes that intentions are influenced by individual attitudes or beliefs and strongly regulated by external contextual factors, which is shown in Figure 2. Moreover, this theory is widely applied in research about the behavior of product environment as public environmental protection (Xing et al., 2022), low-carbon travel behavior (Wang et al., 2023), green consumption (Dhir et al., 2021; Le et al., 2024a; Le et al., 2024b) or other research fields.

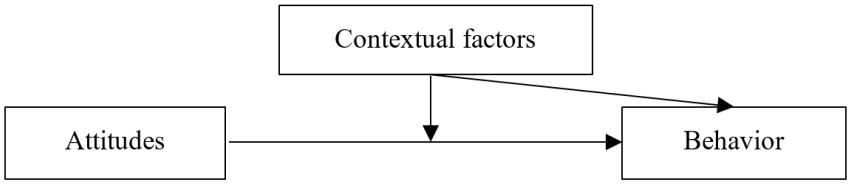

Figure 2. The ABC theory

2.2 GTI

In the tourism industry, “green” and “eco-friendly” are often considered synonymous (Sanjaya et al., 2023). Then, green tourism can involve environmentally friendly activities, including the products and services provided (Tok et al., 2024). The purpose of this type of tourism is to reduce the bad impacts that traditional tourism can have on nature and the environment while contributing to enhancing local cultural values, preserving and promoting the cultural identity of the community (Nagaj & Žuromskaitė, 2023).

According to Lee and Kim (2023), behavioral intention refers to the behavior consumers are likely to expect in the future. However, Saleem et al. (2021) demonstrated that behavioral intention and actual behavior may differ. Thus, intention is an important direct predictor of consumers' environmentally responsible behavior. Empirical studies suggest that consumers tend to commit to green actions due to their general psychological preferences for green products or services rather than just relying on reasoning (Ogiemwonyi, 2024).

To sum up, GTI can be understood as the ability to perform this behavior and is explained based on SN, behavioral perceptions, and consumer attitudes (Irfan et al., 2022). Moreover, this intention includes specific actions that contribute to positive environmental impacts, such as recycling, using organic foods, cycling, using stairs not elevators, using less paper, planting trees, saving energy and water (Ogiemwonyi, 2024). In short, GTI can be defined as the determination or ability of consumers to perform and is a prerequisite for sustainable and environmentally friendly travel behaviors.

2.3 Development of Hypotheses

2.3.1 ATE and GTI

Laroche et al. (2001) defined attitudes as the perception of the importance of environmentally friendly actions. Meanwhile, Cheng et al. (2018) viewed attitudes as a psychological state related to a specific entity, reflecting the process of positive or negative judgement of performing actions that the individual proposes.

Therefore, consumers' attitudes can influence their green purchase intentions (Le et al., 2024a; Le et al., 2024b; Le & Nguyen, 2024). Therefore, it can be seen that people with environmental awareness often want to experience nature during their travel (Wu et al., 2022). Ogiemwonyi (2024) found that people with positive and responsible attitudes towards green services often have environmentally friendly thoughts and actions. In short, ATE can positively influence GTI.

From there, the hypothesis was proposed:

H1: ATE positively impact GTI.

2.3.2 GM and GTI

GM promotes services or products based on consumers' need to protect the environment (Pratiksha & Kavitha, 2023). The strategies provide information about green products or services, and encourage consumers to be more responsible for society (Kazemi & Soltani, 2024). Most importantly, GM promotes green consumer behavior through the 4Ps: product, price, distribution, and promotion (Apaza-Panca et al., 2024; Kotler & Armstrong, 2021).

According to research by Pritulska et al. (2021), consumers may spend more money to purchase and use eco-friendly products or services. In particular, green advertising is essential in raising awareness, knowledge, interest, and consciousness among consumers, encouraging them to use green products daily (Kaur et al., 2022). Along with that, better inventory management, minimizing costs incurred for inventory, saving time and improving services for consumers, and making products and services always on time and in quantity, thereby helping to reduce emissions into the environment (Ahmed et al., 2022).

Many previous studies have argued that elements in the GM positively affect consumers' intention to buy green products or services in various industries: economics (Mehraj & Qureshi, 2020), energy industry (Kazemi & Soltani, 2024), cosmetics industry (Dlamini & Mahowa, 2024), or other industries. Specifically, green services, green advertising, and green prices all influence green consumer intention, with product and advertising being the two most important factors (Hossain & Khan, 2018).

From there, the hypothesis was proposed:

H2: GM positively impact GTI.

2.3.3 GM and ATE

In the context of green tourism, elements of GM, such as product, price, distribution, and communication, promote consumers' purchase behavior (Kaur et al., 2022; Majeed et al., 2022). In addition, research by Cook et al. (2023) showed that services or products with eco-friendly certification will promote consumers' positive attitudes. At the same time, prices must be reasonable and commensurate with sustainable values to increase consumer support (Zhao et al., 2021). In addition, green services need to be distributed through accessible channels, both traditional stores and online platforms, to increase consumer preference (Mohsen et al., 2023). The research by Tan et al. (2022) also demonstrated that the more positive the consumers' ATE, the more they would choose to buy reputable green services. This phenomenon is consistent with the research by Simanjuntak et al. (2023), showing that GM affects attitudes and intentions to consume green services.

Indeed, positive attitudes from marketing strategies create attitudes and strongly influence green product purchase intentions (Wilson et al., 2018). Therefore, attitudes can play a crucial role in forming green consumption intentions (Ahmed et al., 2022; Le et al., 2024b). Based on this, the study asserts that attitudes mediate the relationship between GM and GTI.

From there, the hypotheses were proposed:

H3: GM positively impact ATE.

H9: ATE mediate the impact of GM on GTI.

2.3.4 EC and GTI

EC is understood as the level of awareness and desire to solve environmental problems to protect nature (Hateftabar & Hall, 2023). Individuals with high EC often possess deep knowledge about environmental challenges and are concerned about the negative impacts of their behavior on the environment. This mechanism leads to stronger environmental protection intentions, causing them to act in ways that benefit nature (Bouscasse et al., 2018). Therefore, it is an important factor influencing the intention of sustainable consumption (Jaiswal & Kant, 2018).

In the context of green tourism, EC do not exist alone. However, this factor is combined with others such as attitudes, green identity perception, and personal values, thereby promoting green buying intention (Buh & Peer,

2024). Previous studies such as Alam et al. (2023), Khaola et al. (2014), and Paul et al. (2016) confirmed that the higher the EC, the higher the ATE. Individuals with high EC tend to develop positive ATE towards eco-friendly services or products.

According to Le et al. (2024a) and Le et al. (2024b), environmental protection is often associated with positive consumer attitudes, which strongly motivates them to support and choose green services. The study of Ogiemwonyi & Jan (2023) showed that ATE mediates the correlation between EC and GTI. Based on the above, high EC can increase ATE and promote GTI, emphasizing the important role of ATE as the mediating factor in this relationship.

From there, the hypotheses were proposed:

H4: EC positively impact ATE.

H6: EC positively impact GTI.

H10: ATE mediate the impact of EC on GTI.

2.3.5 EK and GTI

EK is the awareness of environmental problems and solutions to solve those problems (Angreani et al., 2022). Knowledge related to understanding climate change and the impact of consumption is essential in promoting sustainable consumption intentions (Blankenberg & Alhusen, 2019; Saari et al., 2021). Additionally, EK acquired through education, practical experience, and skills is necessary to help improve awareness and sustainable consumption intentions (Hui et al., 2023).

The research by Taufique et al. (2017) also proved that EK positively influences the intention to use green services or products in tourism. Additionally, when individuals have more knowledge about environmental issues, they tend to develop more positive attitudes toward green products and services, strengthening their GTI (Fang et al., 2018; Taufique et al., 2017). Besides, according to Hu et al. (2019) and Nosrati et al. (2023), attitudes, SN or PBC can positively impact GTI. When individuals understand environmental problems, they tend to develop positive ATE, strengthening their GTI (Fang et al., 2018; Taufique et al., 2017). In sum, it can be argued that EK can affect ATE and GTI; from there, ATE can mediate the correlation between EK and GTI.

From there, the hypotheses were proposed:

H5: EK positively impact ATE.

H11: ATE mediate the impact of EK on GTI.

2.3.6 EK and EC

The research of Kautish & Sharma (2020) showed that individual behavior changes as EK is expanded. When individuals have EK, their EC increases (Adam et al., 2021). Therefore, EC is an important cognitive factor that helps explain individual intentions toward being environmentally friendly and responsible (Foroughi et al., 2022).

According to (Ahmed et al., 2021), EC positively affects green consumption using recycled products or environmental protection. At the same time, EK helps consumers to have a deeper insight into their environmental impact, promoting environmentally friendly behavior (Zhang et al., 2024). Some previous research by Saari et al. (2021); Zeng et al. (2023); Zhang et al. (2024) affirmed that EC mediates the impact of EK on the intention to buy green. Therefore, EC increases EK and influences GTI, and this factor can mediate the correlation between EK and GTI.

From there, the hypotheses were proposed:

H7: EK positively impact EC.

H8: EC mediate the impact of EK on GTI.

2.3.7 The moderating role of SN

SN can be understood as views formed by the surrounding environment that can promote or restrain human intentions (Abrahamse & Steg, 2009). At that time, this factor was explained as a person's perception of essential things that others believe the individual is right and must comply with (Al-Swidi et al., 2014). According to the study of Minton et al. (2018), SN, including the macro level (messages such as recycling) and micro level (influence from people around), both have a certain impact on sustainable consumption intentions. At that time, reference groups belonging to SN, such as friends or relatives, can influence consumers' intention to buy green services or products (Xiao et al., 2020). In the context of green tourism, SN can also be defined as the impact of people around, such as family, relatives, or friends, on consumers' intention to carry out GTI.

Based on the ABC theory, contextual factors can strongly impact the correlation between attitudes and intention (Le et al., 2024a; Le et al., 2024b). Then, there will be a gap between consumers' attitudes and what they intend to buy (Carrington et al., 2014; Le et al., 2024a; Le et al., 2024b; Shen et al., 2013). The meta-analysis study by Joshi & Rahman (2016) demonstrated that many factors, including SN, would influence the attitudes - intention relationship. In addition, the research by Al-Swidi et al. (2014) and Harjadi & Gunardi (2022) also argued that SN significantly moderates the attitudes - purchase intention relationships, or the PBC - purchase intention relationship; specifically, the higher the SN, the higher the influence of attitudes or PBC on green purchase intention. Therefore,

the authors have grounds to believe that SN may significantly influence the relationship between ATE and GTI.

Besides, previous studies proved that the components of the marketing mix, such as price, product, advertising, and distribution, positively and strongly impact the intention to use green products (Mahmoud, 2018; Sohail, 2017). When consumers perceive a green service or product as good quality, reasonably priced, widely distributed, and strongly communicated, then their intention to use or purchase green products or services will be enhanced (Kaur et al., 2022). In practice, customers' exposure to information or consumption is also surrounded by the opinions of relatives, colleagues, friends, or others. More specifically, important people around customers can influence their intention to buy and use the service in a supportive or disapproving direction, enhancing their intention to buy despite being influenced by other factors. In the context of green tourism, the influence of important people around consumers can also be understood as SN in green tourism. Under the positive encouragement of people around them, consumers are influenced by the components in the marketing mix and will have a higher intention to use the current service than their original intention. At that time, the impact of the components in the marketing mix on customers' intention to use green tourism services will be further enhanced under the influence of SN. Based on the above insights, the authors have grounds to conclude that SN significantly impact the correlations between ATE, GM, and GTI.

From there, the hypotheses were proposed:

H12a: The correlation between ATE and GTI is positively influenced by the moderating role of SN.

H12b: The correlation between GM and GTI is positively influenced by the moderating role of SN.

From the above insights, the research model was proposed in Figure 3.

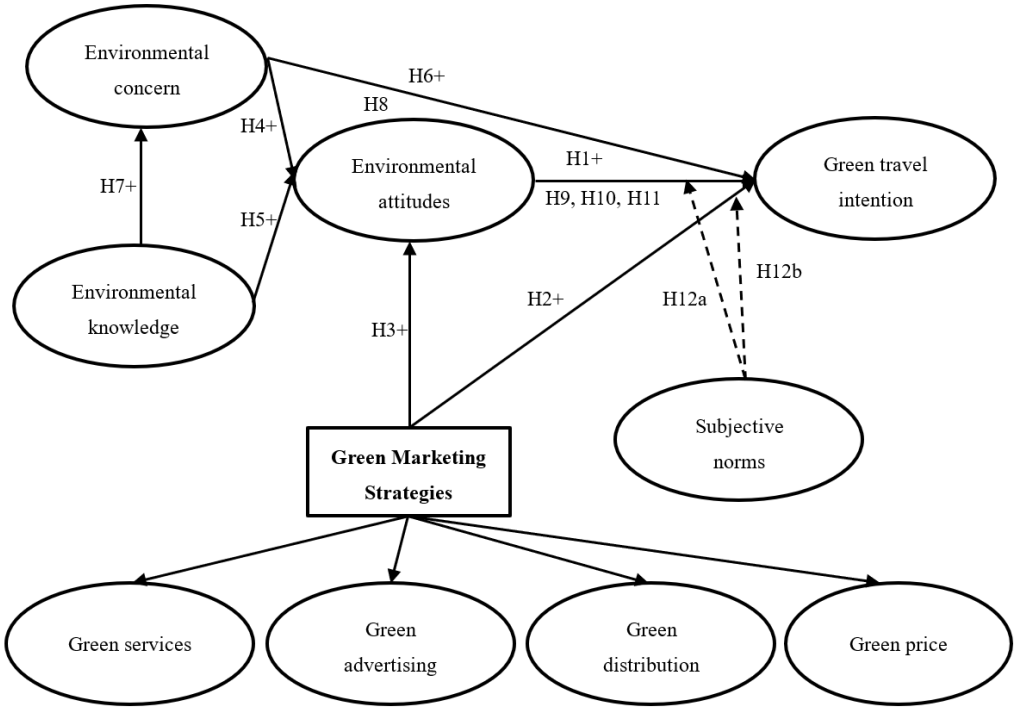

Figure 3. Research model

3. Methods

3.1 Research Method

This study employed the quantitative research method using a questionnaire survey, the steps are shown as follows:

In the first stage, the author discusses the issue of green tourism with tourists, thereby identifying the problems and objectives of the research. Next, the author consulted reliable studies related to the topic to find out the research gaps and limitations. After consulting documents from reputable journals, the author synthesized and compiled the scales applied from these sources. From there, a research model and appropriate scales were proposed. In the second stage, the first in-depth interview was then conducted with ten green tourism experience visitors with different demographics to adjust the wording of the questionnaire (not included in the official survey). This interview was conducted to assess whether the elements in the research model were compatible with the research's objectives, thereby adjusting the applied scales. The second in-depth interview was conducted with two marketing

lecturers, a travel company director, and a marketing department manager who confirmed that the questionnaire's content after the first interview was appropriate to the context of Vietnam. After two in-depth interviews, suggestions were made to adjust the measurement items to best suit the research topic. In the third stage, the author collected 50 responses for a pilot survey using Google Forms (20 offline respondents from tourism companies and 30 online respondents through social media as Facebook or Zalo). The results showed that all factors achieved reliability, which confirmed that all measurement items are highly reliable. In the final stage, the authors conducted a final survey using Google Forms to collect data from tourists from Vietnam in person and online via social networks (Facebook, Zalo, and other platforms). After the survey reached 600 responses, including 300 offline and 300 online, invalid responses were filtered through Excel and SPSS. Finally, 489 valid surveys remained (the response rate was 81.5%). Then, analysis and evaluation were conducted through SPSS 24.0 and Smart PLS 4.0 software. Collecting primary data is to build an initial database with complete information, which helps to clarify the context and impact of independent variables on dependent variables while providing a foundation for analyzing and interpreting results, processing data, and creating basic data for future studies.

3.2 Measurement Items

The study inherited and adjusted the items from reputable journals with 40 observed variables and nine factors (one dependent variable, two independent variables, two mediating variables, and one moderating variable). The questionnaire employed a 5-point Likert scale (1 = Completely disagree to 5 = Completely agree). The detailed items are presented in Table 1 below.

Table 1. Measurement items

Code	Items	Sources
	Green services (GPR)	
GPR1	The services I use are not harmful to the environment.	(Hossain & Khan, 2018)
GPR2	The environmentally friendly services I use must be of high quality.	
GPR3	Eco-friendly services are good for the health of tourists.	
GPR4	The services I use do not release toxic substances into the environment.	
GPR5	Organizations that provide environmentally friendly services must be trustworthy.	
	Green advertising (GPM)	
GPM1	Green advertising helps me raise awareness about the benefits of environmentally friendly tourism.	(Ahmed et al., 2022)
GPM2	I tend to be interested in advertisement with an environmentally friendly message.	
GPM3	Environmental advertisement helps me make purchasing decisions more easily.	
GPM4	I often learn about ways to reduce my environmental impact through advertisement.	
	Green distribution (GPL)	
GPL1	Eco-friendly tourism is widely available everywhere.	(Ahmed et al., 2022)
GPL2	Eco-friendly tourism is always available in the vicinity.	
GPL3	Eco-friendly tourism is often available in the vicinity.	
	Green price (GPC)	
GPC1	I believe that eco-friendly tourism is affordable.	(Ahmed et al., 2022)
GPC2	I believe that the ecological benefits of eco-friendly tourism is worth the price I pay.	
GPC3	Price and quality of eco-friendly tourism should go hand in hand.	
GPC4	The performance of eco-friendly tourism should be worth the money I spend.	
	Environmental attitudes (ATE)	
ATE1	Eco-friendly tourism helps ensure environmental quality.	(Cheng et al., 2018)
ATE2	Eco-friendly tourism can improve my knowledge of natural resource conservation.	
ATE3	Eco-friendly tourism can enhance my travel experience.	
ATE4	Eco-friendly tourism helps me understand the environment better.	
ATE5	Eco-friendly tourism can boost local tourism.	
	Environmental concerns (EC)	
EC1	I am concerned about the deteriorating environmental quality in Vietnam.	(Jaiswal & Kant, 2018)
EC2	The living environment in Vietnam is a major concern for me.	
EC3	I feel interested in participating in activities related to environmental protection in Vietnam.	
EC4	I usually think about how to improve the quality of environment in Vietnam.	
	Environmental knowledge (EK)	
EK1	Green tourism should care about the habitat of wild animals	(Fang et al., 2018)
EK2	Green tourism should persuade tourists to participate in environmental protection through active environmental education	
EK3	Green tourism must conserve natural resources and people to promote sustainability.	
EK4	Residents in green tourism areas can contribute ideas to build green tourism areas.	
EK5	Green tourism should pay attention to protecting local historical culture	
	Green travel intention (GTI)	

GTI1	I prefer to use tourism services with low pollution levels.	
GTI2	I prefer to choose tourism services that consume less energy.	
GTI3	I prefer to choose environmentally friendly tourism services.	(Ogiemwonyi,
GTI4	I prefer to choose tourism services that are less environmentally harmful than others.	2024)
GTI5	I prefer to use tourism services with green certification.	
GTI6	I will prioritize using environmentally friendly tourism in the following months.	
	Subjective norms (SN)	
SN1	People who influenced my decision think I should choose green travel.	
SN2	My friends think I should choose green travel.	(Xiao et al.,
SN3	My parents think I should choose green travel.	2020)
SN4	People who are important to me think I should choose green travel.	

3.3 Data Collection

Due to the limited time and resources, this study applied a cross-sectional research method and a convenient random sampling approach to save time and ensure easy access to the survey subjects, allowing quick data collection and accurate representation of the population. However, the above research method and sampling approach also caused bias in the reliability of the data analysis. Therefore, determining the sample size is very important to solve the above disadvantages when this step significantly increases the reliability and generalizability of the research findings. The sample size was classified according to the recommendations of Comrey & Lee (2013): 100 mean poor; 200 mean acceptable; 300 mean good; 500 mean very good; and 1,000 or more mean excellent. A sample size of about 600 people was selected to fit the purpose of this study, including 300 offline and 300 online survey participants. Therefore, the author selected a scale of 600 respondents to ensure that the study is appropriate to the context and meets the survey requirements, which will help collect data fully and analyze it in more detail.

3.4 Partial Least Square-Structural Equation Modeling Method (PLS-SEM)

This study combines two theories to study the GTI of tourists from Vietnam. The proposed research model includes new and complex factors (mediators and moderator). Due to the exploratory nature of the model, the PLS-SEM method was applied (Hair et al., 2022). The author also used SmartPLS software to evaluate the hypotheses and analyze the data using SEM.

4. Results

4.1 Descriptive Statistics

After conducting the investigation, the author collected 600 responses. However, 488 responses were qualified to conduct the necessary tests after eliminating invalid responses.

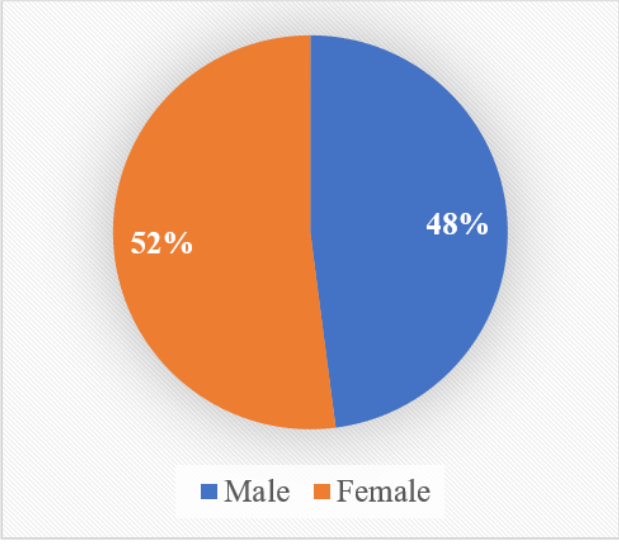

Figure 4. Gender of respondents

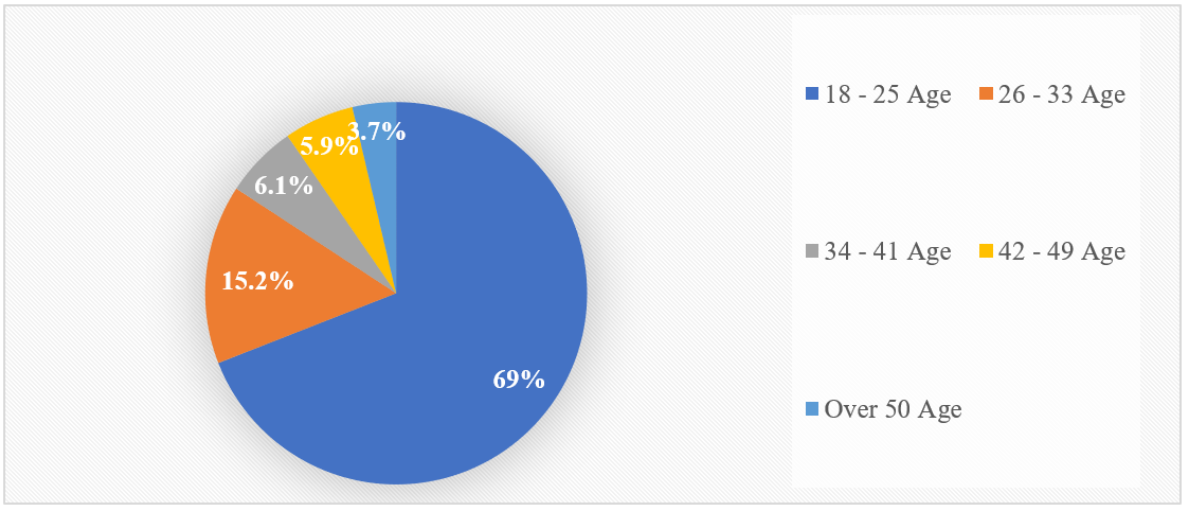

Figure 5. Age of respondents

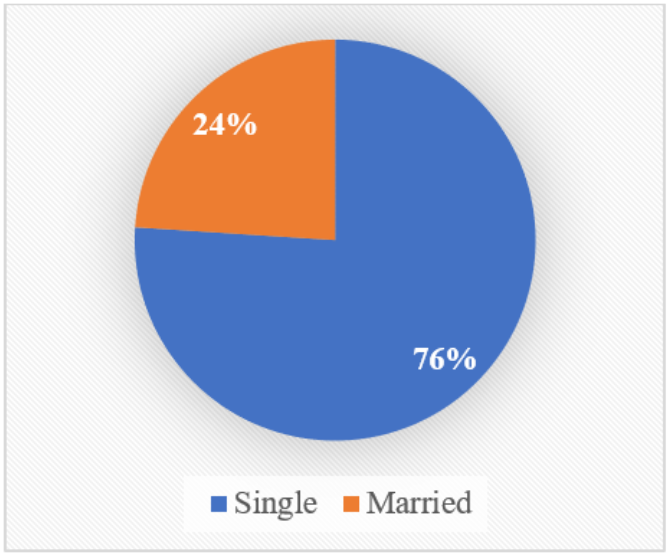

Figure 6. Marital status of respondents

In Table 2, of the 488 consumers surveyed, 234 were male, accounting for 48%, while 254 were female (Figure 4). Regarding age distribution in Figure 5 and Table 2, the largest proportion was recorded in the 18-25 age group, including 337 respondents, accounting for 69.1% of the total sample. The 26-33 age group includes 74 respondents, accounting for 15.2%. The 34-41 age group ranked third, with 30 individuals, accounting for 6.1% of the sample. The result is suitable for the current situation when young people love to buy green tours. The 42-49 age group ranked fourth with 29 respondents, accounting for 5.9% of the sample. The group over 55 had only 18 people, accounting for 3.7% of the total. Most of the surveyed people had an income from 7.5 million VND to less than 15 million VND, accounting for about 33.4%. The second largest income group, accounting for 29.7%, is between 15 million VND and under 30 million VND. This is followed by the income group from 4.5 million VND to under 7.5 million VND, accounting for 15%. The income group from 30 million VND to under 45 million VND contains 61 respondents, accounting for 12.5% of the sample. Finally, the highest income group, over 45 million VND, accounts for 9.4% of the respondents. Regarding marital status in Figure 6, 76% of the respondents, equivalent to 371 respondents, are single, while 24%, equivalent to 117 respondents, are married. The finding is consistent with the age of respondents, while most of the surveyors are young people. Regarding educational level, the group with university degrees accounts for 49.8% of the sample, with 243 respondents. The group of high school accounts for 17% of the representative sample of 83 respondents. The group with college degrees accounts for 15.8% of the sample, with 77 respondents. Finally, the group with postgraduate degrees had 48 respondents, accounting for 9.8% of the sample, and the group with intermediate degrees had 37 respondents, accounting for 7.6% of the sample.

Table 2. Consumers' characteristics

Characteristics	Sample (n)	Percentage (%)
Gender	488	100%
Male	234	48%
Female	254	52%
Age	488	100%
18–25	337	69.1%
26–33	74	15.2%
34–41	30	6.1%
42–49	29	5.9
Over 50	18	3.7%
Martial status	488	100%
Single	371	76%
Married	117	24%
Education	488	100%
High school	83	17%
Intermediate	37	7.6%
College	77	15.8%
Bachelor degree	243	49.8%
Postgraduate	48	9.8%
Income	488	100%
From 4.5 to under 7.5 million VND	73	15%
From 7.5 to under 15 million VND	163	33.4%
From 15 to under 30 million VND	145	29.7%
From 30 to under 45 million VND	61	12.5%
Over 45 million VND	46	9.4%

The exchange rate is USD1 = 24.885 VND at October 7, 2024.

4.2 Screening the Data Set

The author applied SPSS software to evaluate the data set using the common method variance test. The findings indicated that the data set was not affected by the typical bias issue, with a factor accounting for 32.581% of the total variance, which is less than 50%. Furthermore, the author employed the kurtosis and skewness tests to perform a normalcy test. The findings demonstrated that the indices fell between ± 1.96, suggesting that the data attained a normal distribution (Hair et al., 2022).

4.3 Measurement of Validity and Reliability

4.3.1 Measurement of variables

After testing the reliability and validity of the first-order variables, the author obtained the latent variables (LV scores - GPR, LV scores - GPC, LV scores - GPL, LV scores - GPM). From there, the author continued to test the second step of the model. In Table 3, the findings show that all the items achieved reliability while all ID (indicator loading), CA (Cronbach's alpha), and CR (composite reliability) are over 0.7. The AVE (average variance extracted) is over 0.5, meaning all the items achieved convergent validity. All the VIFs (variance inflation values) are under 0.3, meaning multicollinearity does not exist. In addition, the results of Table 4 show that all the HTMT (Heterotrait-Monotrait) values are below 0.85, meaning all the items achieved discriminating value. From there, all the constructs are qualified (Hair et al., 2022).

Table 3. Reliability and validity of constructs

Factors	Items	ID	CA	CR (rho_c)	AVE	VIFs
GM	LV scores - GPR, LV scores - GPC, LV scores - GPL, LV scores - GPM	0.711 - 0.823	0.774	0.854	0.596	1.549 - 1.752
ATE	ATE1, ATE2, ATE3, ATE4, ATE5	0.736 - 0.848	0.850	0.893	0.626	1.566 - 2.389
EC	EC1, EC2, EC3, EC4	0.822 - 0.849	0.859	0.904	0.702	1.913 - 2.057
EK	EK1, EK2, EK3, EK4	0.797 - 0.860	0.847	0.897	0.685	1.752 - 2.061
SN	SN1, SN2, SN3, SN4	0.864 - 0.893	0.905	0.933	0.778	2.626 - 2.871
GTI	GTI1, GTI2, GTI3, GTI4, GTI5, GTI6	0.792 - 0.849	0.900	0.923	0.667	1.934 - 2.471

Table 4. HTMT (Heterotrait-Monotrait) values

	ATE	EC	EK	GM	GTI	SN	SN×ATE	SN×GM
ATE								
EC	0.589							
EK	0.553	0.524						
GM	0.674	0.646	0.631					
GTI	0.651	0.442	0.473	0.697				
SN	0.087	0.134	0.205	0.182	0.241			
SN×ATE	0.249	0.094	0.087	0.088	0.066	0.067		
SN×GM	0.090	0.034	0.009	0.081	0.040	0.212	0.494	

4.3.2 The model fit

In Table 5, the SRMR (Standardized Root Mean Square Residual) is 0.079, under 0.08; the NFI is 0.808, over 0.8. The findings indicate that the model is a good fit (Hair et al., 2022).

Table 5. The model fit

Indicators	Estimated Model
SRMR	0.079
NFI	0.808

4.4 Structural Equation Modelling (SEM)

The results of Table 6 show that, with a 95% confidence interval, p-values of the hypotheses H1, H2, H3, H4, H5, H7, H9, H10, H11, H12a are all less than 0.05, proving that these correlations are supported. Meanwhile, *p*-values of hypotheses H6, H8, and H12b are all less than 0.05, meaning these correlations are rejected.

Table 6. Boostrapping results

Hypotheses	Correlations	*β*	Confidence Interval	*t*-Statistic	*p*-Value	Conclude
			Direct effects			
H1	ATE→GTI	0.412	0.319 - 0.506	8.675	0.000	Support
H2	GM→GTI	0.355	0.259 - 0.447	7.741	0.000	Support
H3	GM→ATE	0.320	0.231 - 0.413	6.871	0.000	Support
H4	EC→ATE	0.255	0.170 - 0.337	5.987	0.000	Support
H5	EK→ATE	0.191	0.103 - 0.280	4.242	0.000	Support
H6	EC→GTI	0.004	-0.085 - 0.092	0.093	0.926	Reject
H7	EK→EC	0.449	0.360 - 0.532	10.161	0.000	Support
			Indirect effects			
H8	EK→EC→GTI	0.002	-0.038 - 0.042	0.093	0.926	Reject
H9	GM→ATE→GTI	0.132	0.088 - 0.185	5.302	0.000	Support (partial mediation)
H10	EC→ATE→GTI	0.105	0.065 - 0.150	4.891	0.000	Support (partial mediation)
H11	EK→ATE→GTI	0.079	0.040 - 0.124	0.124	0.000	Support (partial mediation)
			Moderating effects			
H12a	SNxATE→GTI	0.203	0.117 - 0.285	4.781	0.000	Support
H12b	SNxGM→GTI	-0.053	-0.149 - 0.042	1.089	0.276	Reject
			R^2 adjusted			
			R^2_{ATE}= 0.391			
			R^2_{EC}= 0.200			
			R^2_{GTI}= 0.485			

The results show the beta standardized coefficient (*β*) of direct effects as follows: ATE→GTI as 0.412; GM→GTI as 0.433; GM→ATE as 0.320; EC→ATE as 0.255; EK→ATE as 0.191; EK→EC as 0.449. All the *β* are in the confidence interval, demonstrating that hypotheses H1, H2, H3, H4, H5, H7 are supported. However, the *β* of EK→EC is not in the confidence interval, indicating that hypothesis H6 is rejected.

Besides, the *β* of some indirect effects are within the confidence interval (GM→ATE→GTI as 0.132, EC→ATE→GTI as 0.105; EK→ATE→GTI as 0.079), meaning that hypotheses H9, H10, H11 are supported. The *β* of the indirect effect (EK→EC→GTI) is not in the confidence interval, indicating that hypothesis H8 is rejected.

The *β* of the moderating effect SN×ATE→GTI is 0.203, within the confidence interval, meaning H12a is supported. At the same time, the *β* of the moderating effect SN×GM→GTI is not within the confidence interval, demonstrating that hypothesis H12b is rejected.

Finally, the R^2 adjusted of ATE is 0.391, meaning that GM, EC, and EK explain a 39.1% variance of ATE. R^2

adjusted of EC is 0.200, showing that EK explains the 20.0% variance of EC. Moreover, R^2 adjusted of GTI is 0.485, indicating that EK, EC, GM, ATE explain 48.5% variance of GTI. In sum, the research model shows that there are six direct effects, three indirect effects, and one moderating effect (Figure 7 and Figure 8).

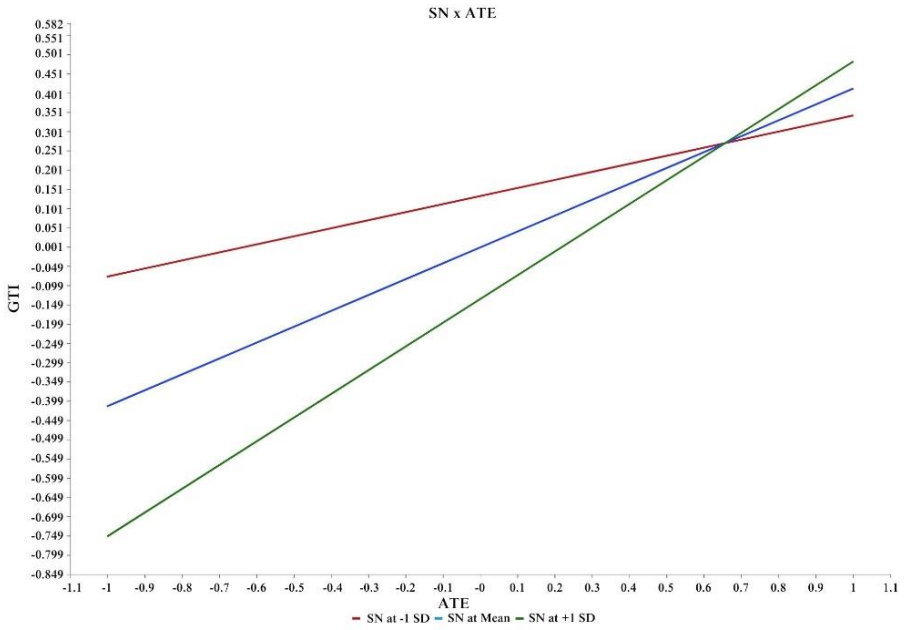

Figure 7. Moderating effect of SN in the impact of ATE on GTI

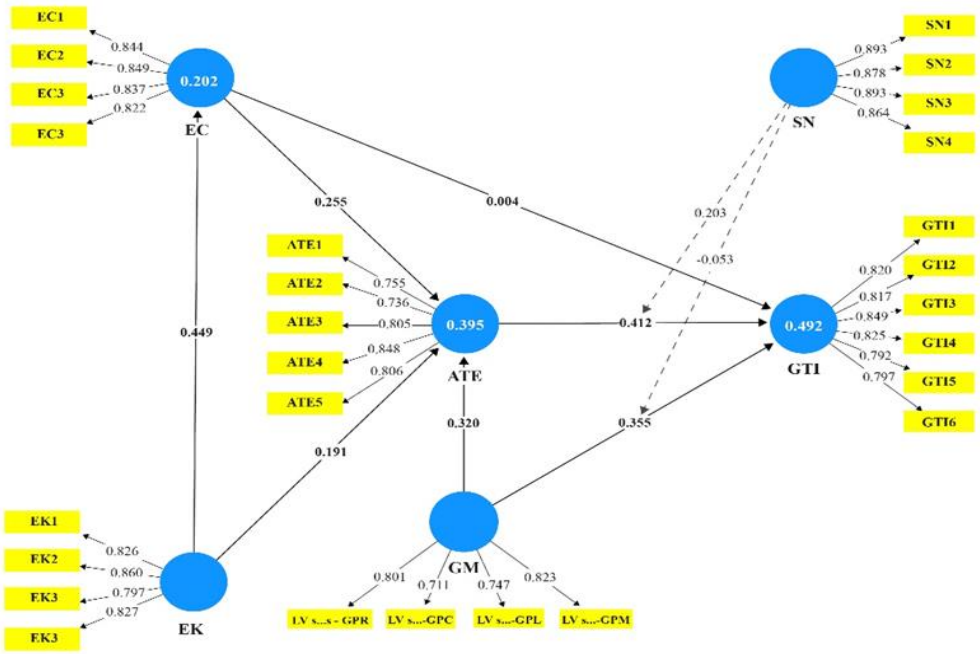

Figure 8. The path coefficients of SEM

4.5 The Predictive Power

The results of Table 7 show that the Q^2 values of all items ATE, EC, and GTI are over 0, meaning that the model has a good predictive fit (Shmueli et al., 2019). The number of items with PLS-SEM_MAE index less than LM_MAE is 7/15 items. Therefore, the research model has average predictive ability.

Table 7. Predictive power of the research model

Variables	Q^2predict	PLS-SEM_MAE	LM_MAE
ATE1	0.180	**0.647**	0.655
ATE2	0.176	**0.642**	0.649
ATE3	0.198	**0.611**	0.616
ATE4	0.241	**0.629**	0.633
ATE5	0.247	**0.494**	0.505
EC1	0.157	0.699	0.639
EC2	0.119	0.774	0.705
EC3	0.140	0.740	0.661
EC4	0.134	0.749	0.672
GTI1	0.236	0.622	0.610
GTI2	0.214	0.620	0.597
GTI3	0.308	0.576	0.564
GTI4	0.287	0.588	0.567
GTI5	0.222	**0.573**	0.574
GTI6	0.194	**0.612**	0.621

4.6 Discussion

Hypothesis H1 is supported, meaning ATE positively and directly influences GTI with a β coefficient of 0.412, meaning that ATE positively and directly influences GTI. The result is consistent with the research of Ogiemwonyi (2024), which argues that environmental protection is extremely necessary, reflected in consumers' positive attitudes when choosing green services or products. Hypotheses H2 and H3 are supported, with β coefficients of 0.355 and 0.320, respectively, showing that green marketing significantly impacts GTI and ATE. The result is similar to the previous study results by Ahmed et al. (2022), Dlamini & Mahowa (2024), Mehraj & Qureshi (2020), Tan et al. (2022), which is appropriate due to the similarity in research context (same Asian market). Therefore, effective GM not only enable consumers to form more positive opinions and emotions about environmental protection but also provide an opportunity to promote the green travel behaviour of consumers. Hypothesis H4 is supported, i.e., EC af, facts ATE, with a β coefficient of 0.255, showing that EC positively and directly influence consumers' ATE. The result is the same as previous studies by Alam et al. (2023), Khaola et al. (2014), Paul et al. (2016), which is appropriate due to the similarity in the use of research methods (PLS-SEM). The result is demonstrated that the higher the EC, the more positive the consumer's ATE, which in turn affects their GTI.

However, hypothesis H6 is rejected when p-value > 0.05, demonstrating that EC does not affect GTI, contrary to previous studies (Jaiswal & Kant, 2018; Nguyen-Viet, 2023). The differences in research results on the impact of EC on GTI in Vietnam can be explained by several reasons: first, the green tourism industry has not been widely developed, making it difficult for consumers to access environmentally friendly options. Despite EC, information about green tourism has not been fully communicated, affecting their decisions. In addition, the cost and convenience of green tourism are often not as attractive as traditional tourism. Long-standing habits and lack of government support also hinder this transition. Therefore, efforts are needed from the government, businesses and the community to raise concerns and provide adequate information about green travel. Hypotheses H5 and H7 are supported, meaning that EK impacts ATE and EC with β coefficients of 0.191 and 0.449, respectively. The findings are consistent with other studies by Adam et al. (2021), Fang et al. (2018), Kautish & Sharma (2020), Taufique et al. (2017), which are appropriate due to the similarity in the research context (same Asian market). The findings show that EK is also one of the factors that help promote consumers' increasingly positive ATE, which in turn leads to their green behavior.

Hypothesis H8 was not supported when p-value > 0.05, indicating that EC do not mediate the relationship between EK and the GTI of consumers. The author explains this by suggesting that EK may be formed from information and understanding, while EC may be more emotional. If consumers have a high level of experience but lack the emotion or motivation to feel the need to act, EC cannot influence this relationship.

Hypotheses H9, H10, and H11 are supported, meaning that ATE mediates the correlations between GM and GTI, EC and GTI, and EK and GTI with β coefficients of 0.132, 0.105, and 0.079, respectively. The findings are consistent with previous studies (Hu et al., 2019; Majeed et al., 2022; Nosrati et al., 2023; Ogiemwonyi & Jan, 2023; Tan et al., 2022) due to the similarity in a research context (same Asian market). However, hypothesis H8 is not supported when p-value > 0.05, indicating that EC does not mediate the correlation between EK and GTI. The reason is that EK may be formed from information and understanding, while EC may be more emotional. If consumers have high knowledge but lack the emotion or motivation, EC will not be able to mediate this relationship.

Hypothesis H12a is supported by a β coefficient of 0.203, showing that SN significantly moderates the correlation between ATE and GTI. This finding is quite similar to other studies by Al-Swidi et al. (2014), Harjadi & Gunardi (2022), and Le et al. (2024b), which also confirmed the important role of social norms in forming the

intention to travel green. However, hypothesis H12b is rejected when p-value > 0.05, indicating that SN does not moderate the correlation between GM and GTI. The reason can be explained: in the context of green tourism, when GM is effectively implemented, consumers strongly feel the values that green tourism brings, thereby eliminating the impact of SN in shaping GTI.

5. Conclusion and Implications

5.1 Conclusions

The study has achieved its initial objectives by applying quantitative research methods to investigate the factors affecting the GTI of tourists from Vietnam. The results show that only nine hypotheses are supported among 12 proposed hypotheses, with six direct effects, three mediating effects, and one moderating effect (Figure 8). Precisely, the research fills the research gaps from the previous study by examining the impact of GM, EK, and EC on ATE, leading to the increase of GTI. The study also explores the critical role of SN as a moderator in the impact of ATE on GTI.

In sum, the research results provided an overview of GTI in a green tourism context by combining the TPB and ABC theories, offering the novel approach of GM, EK, EC, ATE and SN in the green travel behavior of tourists. Based on the results, the authors proposed practical implications for companies in the tourism industry to promote GTI of consumers, theoretical implications, and limitations for future research.

5.2 Theoretical Implications

This study has made some significant contributions to better understand GTI by filling the research gaps, specifically as follows:

First, the study confirms that GM are important factors and strongly impact consumers' GTI. Elements in GM not only provide information about green products or services but also encourage consumers to use green tourism and take action to protect the environment. From there, consumers will likely form more positive ATE and promote their GTI. Second, in the context of green tourism, this is one of the pioneering studies in finding the moderating effect of SN in the correlation between ATE and GTI. The moderating role of SN has been demonstrated in several previous studies; however, this is the first time this factor has been explored in the context of green tourism. From there, this study reaffirms the suitability of ABC theory when combined with TPB. Finally, the study also reaffirms that other psychological factors, such as EK and EC, also help consumers become more aware of environmental issues, thereby forming positive attitudes and promoting green tourism choices. The findings in this study contribute new directions for future studies in sustainable tourism.

5.3 Practical Implications

According to the findings, the author proposed management implications for businesses to grasp green tourism trends and build GM to encourage the green tourism behavior of consumers.

First, at the macro-picture of the economy, GM can promote green tourism and local economic growth. Green tourism can create jobs for local people in areas such as tour guides, hotels and restaurants, which also encourages the use of products from local businesses to increase revenue. Green tourism also helps preserve natural and cultural destinations, which attracts more tourists. Local government can see this as a circular and symbiotic economic cycle between green tourism development and local businesses while protecting the environment.

Second, for green pricing strategies, businesses should develop a competitive pricing policy based on analyzing the costs and values that green tourism products bring to customers. Companies must communicate the benefits and sustainability of the product so that customers can perceive the balance between price and quality of services. The managers can also deploy incentive programs and price promotions such as price incentives for green tourism packages (10-15% discount for tour packages, tourism services using environmentally friendly products and services). For the green services (GPR) and green advertising (GPM) strategies, businesses can deploy eco-tours in the forest and employ strong advertising campaigns to communicate the benefits and sustainability of these tours, such as "using natural resources properly and honestly" or "discovering nature, protecting the future", which can be used in advertisements on social networking platforms such as Tiktok, Facebook, Youtube or TV. These advertising campaigns can also integrate with famous KOLs or KOCs (Tiktokers or Youtubers), who significantly influence young customers - the majority of respondents. Then, GPR and GPM can support customers in the decision-making process of purchasing green tourism services. Besides, it is necessary to build a widespread distribution system (GPL) for potential customers to approach green tourism. Businesses can sign contracts with travel agent companies and expand tour sales branches in major cities, which makes it easier for customers to approach and buy green tours.

Third, ATE has the most substantial impact on GTI, followed by GM, with β of 0.412 and $\beta = 0.355$. Therefore, enhancing positive ATE must also be focused on. Businesses should increase ATE by increasing awareness of the

benefits of green tourism and creating opportunities for customers to participate in environmental protection activities in tourism. These activities encourage customers to share their opinions, contribute new ideas to the construction of green tourist areas, and organise competitions or events on environmental protection to attract customers' participation and enhance their ATE.

Fourth, EK is a factor that directly affects EC with a coefficient of $\beta = 0.449$ and ATE with a coefficient of $\beta = 0.191$. Then, businesses should enhance EK and communication by creating opportunities for customers to exchange and learn about environmental tourism-related issues or inviting environmental experts to share in green tourism activities. On the other hand, EC does not directly affect customers' GTI. Still, it indirectly affects their ATE, thereby affecting their GTI with the $\beta = 0.090$. Businesses should actively organize events and forums on sustainable tourism to enhance their image, incorporate their environmental protection activities into advertising and communication campaigns, and develop green tourism programs and products with specific commitments to environmental protection. From there, it is possible to raise consumer interest, leading to increased green tourism intentions.

Finally, companies should organize discussions and interactions by creating communication channels and organizing photo or video contests on green tourism to encourage consumer creativity and connection. In addition, a consumer review collection system should be established to collect positive feedback so businesses operating in the tourism industry can create a green and sustainable tourism environment, meeting customers' growing demand for environmentally friendly tourism.

5.4 Limitation and Directions for Future Research

This study also has limitations, as with other research. During the data collection process, the study was conducted over a short period, using a convenience sampling method and focusing only on Vietnam. This method may affect the results due to market fluctuations and geographical and economic factors. Therefore, future research should expand the survey to other regions, including Asian or European countries, to collect more diverse data on green tourism trends. Second, the study did not analyze the influence of cultural factors on GTI. Future studies should add cultural factors to the model to better understand consumer motivation. Finally, future research can examine other factors in the model, such as green experiential tourism, eco-labeling, green trust, and internal marketing. These directions not only enrich the research knowledge but also improve the effectiveness of promoting GTI in the future.

Author Contributions

Conceptualization, N.L., T.T.B. and Q.N.V.; methodology, T.T.B. and Q.N.V.; software, N.L.; validation, T.T.B. and Q.N.V.; formal analysis, T.T.B. and Q.N.V.; investigation, N.L. and Q.N.V.; resources, L.Q.V.; data curation, N.L.; writing—original draft preparation, N.L. and Q.N.V.; writing—review and editing, T.T.B., N.L. and Q.N.V.; visualization, N.L.; supervision, T.T.B. and Q.N.V.; project administration, L.Q.V.; funding acquisition, L.Q.V.. All authors have read and agreed to the published version of the manuscript.

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Data Availability

The data used to support the research findings are available from the corresponding author upon request.

Conflicts of Interest

The authors declare no conflict of interest.

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