Understanding the Ecotourism Behavioural Intention by Expanding the Theory of Planned Behaviour

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Abstract
This study utilised the Extended Planned Behaviour Theory (TPB) model to study the behavioural intention of ecotourism in China. The study distributed a self-filled questionnaire to 400 tourists who had visited a famous scenic ecotourism spot in China. Use PLS-SEM for structural equation modelling and analysis. The survey results indicate that tourist satisfaction only mediates perceived values, attitudes, and ecotourism behavioural intentions. Subjective norms, perceived value, attitude, and perceived behavioural control all impact tourist satisfaction. This provides theoretical support and management direction for China’s sustainable and healthy ecotourism development.

Keywords: Ecotourism; Theory of Planned Behaviour; Perceived Value; Ecotourism Behavioural Intention

1.0 Introduction
Tourism is considered to be an essential growth industry for countries around the world. The tourism industry is booming, and ecotourism has become a whole-of-humanity phenomenon. Ecotourism has different definitions among different researchers. The concept of ‘ecotourism’ originates from the ‘Ecological Tourism’ proposed by Hetzer (1965). Ceballos Lascarain, then a special advisor to the IUCN 1983, scrambled the definition of ecotourism. The most recognised approach is confirmed by UNEP (2002), which has a minimal effect on the environment, respects local cultures, and recognises the significance of preserving natural resources. Ecotourism is defined as “a form of tourism based on the principles of sustainable development” by the Chinese Ministry of Culture and Tourism. It emphasises protecting the ecological environment, promoting harmonious coexistence between humans and nature, and engaging in tourism experiences and education through ecologically friendly methods. This approach to tourism relies on exceptional natural ecosystems and distinctive cultural landscapes, aiming to enhance individuals’ ecological awareness while providing them with physical and mental enjoyment.

According to TIES, the International Ecotourism Society, ecotourism has developed rapidly in tourism industry in this century, with an annual growth rate of 25% to 30%. Ecotourism accounts for 55% of national tourist arrivals in Europe and the United States, whereas

DOI: https://doi.org/10.21834/e-bpj.v8i26.5159
Asian countries reaches 35%, while in European countries, 70% of the population is interested in ecotourism (Zeppel, 2006). After the COVID-19 outbreak, ‘nature and health’ became the first choice of many Chinese tourists. Government information disclosure shows that according to statistics in 2021, China’s domestic 3.246 billion people participate in tourism, and the number of ecotourism tourists was 2.083 billion, exceeding half of the total number of domestic tourists in China. Ecotourism is a tourism behaviour that emphasises the experience of natural areas and the protection of the environment. In hundreds of years of human development, the destruction of the environment to gain economic benefits, resulting in the rapid deterioration of the human living environment, the urgent need to raise people’s awareness of ecological and environmental protection, so this phenomenon has increased researchers’ interest in ecotourism research.

1.1 Problem of Study

Travellers’ choice of travel decision-making method is a complex process. Over the past few decades, many academic research objectives have focused on determining tourists’ destination revisit intentions within the larger framework of journeys. Understanding the behavioural intention factors that influence tourists’ choice of travel modes is vital for the progress of the tourist industry (Mheidat & Marzuki, 2023). Ecotourism has a low environmental impact, respects local cultures, and contributes significantly to preserving environmental resources (UNEP, 2002). That’s why countries are now developing ecotourism. For the continued prosperity of ecotourism, it is imperative to study the behavioural intention of tourists to choose ecotourism, which is conducive to the sustainable development of ecotourism (Tan, Chong, Lo, Mohamad & Wang, 2019). Behavioural intention has always been considered the most critical research field in tourism research, but research on its predictors, including perceived value, is still lacking. Therefore, the questions of what factors influence tourists’ ecotourism behavioural intentions, their relationships, and how they influence tourists’ behavioural intentions have not been fully explained.

1.2 Objectives of Study

Tourist travel decision-making requires considering many factors and is a highly complex process. Instead of attracting new tourists, finding ways to keep former tourists at a lower cost is better. Therefore, generating positive tourist attitudes and revisiting intention can reduce the cost of publicity and marketing and attract as many tourists as possible to join ecotourism so that the already injured environment can be repaired and ultimately achieve the purpose of balancing the relationship between economic and environmental benefits. So, studying tourists’ behavioural intentions regarding their travel mode is essential. Behavioural intention is a systematic thought process designed to plan and implement a behavioural plan within a specific acceptable range. Hasan et al. (2020) research has shown that to predict relative behaviour accurately, it is necessary to study behavioural intention. Ajzen (1991) suggested that behavioural intention is the resultant variable of the ‘Theory of Reasoned Action’ and is framed as how a human develops a plan to behave in a particular way in future behaviours. According to Blackwell et al. (2001), behavioural intention refers to an individual’s actual purchasing behaviour and specific actions taken towards a goal, that is, an individual’s subjective judgment of the probability of completing a specific task or an individual’s tendency to take explicit actions in the future. However, research often defines behavioural intention as two dimensions: revisiting and willingness to recommend specific destinations or tourism products. However, travel intention and revisit (purchase) intention are commonly used indicators in existing research (Soliman, 2021).

Scholars have studied tourists’ behavioural intentions from various viewpoints, including the experience quality of the destination experience, the experience of destination amenities, host-guest interactions, and service quality (Chong, Tan, Lo, Mohamad & Wang, 2018). In addition, some scholars have started studying behavioural intentions from the perspective of tourist motivation. The Theory of Planned Behaviour is often used to study behavioural intention (Ajzen, 1991). Although many fields have successfully applied the “planned behaviour theory” for research, more elements are still needed to improve its explanatory power. Therefore, this study applies the Theory of Planned Behaviour, Satisfaction, and Perceived Value as variables to the research framework of tourists’ behavioural intention to choose tourism methods in order to study ecotourism behavioural intention.

2.0 Literature Review

2.1 Theory of Planned Behaviour (TPB)

Human behaviours are complex, and to better understand human behaviours, the Theory of Planned Behaviour (TPB) is often used to assess and forecast people’s behaviour. The TPB theory refers to adding a perceptual behaviour control scalar in TRA theory (Ajzen, 1991). Previous research on the theory of planned behaviour shows that three important variables affect behavioural intention: perceived behavioural control, subjective norms, and attitudes.

TPB has been widely used in different areas of tourism research, such as the Restaurant, Hotel, and Mass tourism industries. Similarly, many scholars use TPB to evaluate the behavioural intentions of various types of tourism, such as Dark Tourism Intention, Creative tourism behavioural intention, and behavioural intention for environmentally responsible tourism (Lewis et al., 2021). Therefore, this study adopts the TPB method to fully explain the intention of ecotourism behaviour by studying the impact of each variable of TPB on ecotourism behaviour intention. To enhance the TPB predictive power, as proposed by some scholars, more variables can be included (Abbasi et al., 2020). In this study, perceived value and satisfaction will be added to pre-extend the original TPB theory. Individuals’ overall evaluation of a particular behaviour is reflected in behavioural norms, attitudes, and perceived behavioural control, which depends on their beliefs about the outcome of that behaviour (Ajzen, 1991; Zhang et al., 2017). Subjective norms refer to attending or not attending to perceived stress from those around them (Ajzen, 1991). Perceived behaviour means the assessment of
the level of difficulty or easiness to perform a behaviour as expected and perceived (Ajzen, 2002). According to Ajzen’s (1991) research, behavioural norms, attitudes, and perceived behavioural control can have far-reaching consequences on behavioural intentions and behaviours.

2.2 Attitude, Behavioural Norm, Perceived Behavioural Control
Previous tourism research has identified that behavioural norms, attitudes, and perceived behavioural control effectively predict tourists’ future behaviour (Platania et al., 2021). A large number of studies have shown that there is a positive relationship between tourists’ attitudes towards the choice of travel modes, the supportive attitudes of people close to tourists towards tourists’ participation in such tours, and the ease or disease of participating in such tours, and tourists’ behavioural intention (Hasan et al., 2017). Therefore, we establish the subsequent hypothesis:
H1. Attitude positively influences ecotourism behavioural intention.
H2. Behavioural norm positively influences ecotourism behavioural intention.
H3. Perceived behavioural control positively influences ecotourism behavioural intention.

2.3 Perceived Value
Zeithaml (1988) The evaluation of a product that considers the perceived benefits of customers to be weighed against the costs paid. Perceived value is an integral assessment of the ecotourism product in terms of perceived benefits and losses from participation in the process (Gallarza & Gil Saura, 2006; Zeithaml, 1988). The effect of perceived value on behavioural intention has been demonstrated in past research in many industries, such as Manufacturing, Financial, Consultancy, Media Services and Information industry, and other industrial fields. Many studies in tourism research have also demonstrated that perceived value positively affects tourists’ behavioural intentions (Ashraf et al., 2020). Therefore, we establish the subsequent hypothesis:
H4. Perceived value positively influences ecotourism behavioural intention.

2.4 Satisfaction
Satisfaction is usually derived from comparing assessment expectations and satisfaction (Oliver, 1980). However, Füller and Matzler (2008) consider satisfaction as a subjective evaluation of a tourist’s perception of a tourist destination or service.

2.4.1 Attitude, Subjective Norm, Perceived Behavioural Control and Satisfaction
The main elements of the Theory of Planned Behaviour are subjective norms, attitudes, and perceived behavioural control, and they adequately predict behavioural intentions and behaviour (Ajzen, 1991). In previous research, few studies have found a direct effect of attitudes, subjective norms, and perceived behavioural control on satisfaction. However, in a later study of domestic tourists in Bangladesh, Satisfaction was shown to be positively influenced by several factors: subjective norms, attitudes, and perceived behavioural control (Hasan et al., 2020). We therefore formulate the following hypothesis:
H5. Attitude positively influences satisfaction.
H7. Perceived behavioural control influences satisfaction.

2.4.2 Perceived Value and Satisfaction
Perceived value and satisfaction are two pivotal concepts of significant importance. Perceived value and satisfaction are often studied simultaneously in marketing and consumer behaviour. Perceived value is also a precursor to customer satisfaction and loyalty (Carvache-Franco et al., 2019). Many studies in tourism research have demonstrated that perceived value is associated positively with satisfaction (Quynh et al., 2021). Therefore, we establish the subsequent hypothesis:
H8. Perceived value positively affects satisfaction.

2.4.3 Satisfaction and Ecotourism Behavioural Intention
Satisfaction is often considered an antecedent variable of behavioural intention (Gallarza et al., 2013). In the study on tourism, Han (2015) indicates that satisfaction positively influences behavioural intention. We therefore formulate the following hypothesis:

2.4.4 Satisfaction as the Mediating Variable
Satisfaction research is now relatively well-established and is often included in other studies to construct empirical models to increase proposed model interpretive strength and the study’s depth. In previous studies, the mediator of satisfaction between behavioural intention and perceived value has been investigated. Rajaguru (2016) demonstrates that the perceived service quality of full-service airlines significantly increases the behavioural intention through the effect of customer satisfaction compared to low-cost airlines. (Kuppelwieser et al., 2022) Similarly, the mediating role between perceived value and customer behavioural intention was demonstrated, and a positive relationship was established between the two. A study by Hasan et al. (2020) showed that satisfaction mediated between attitude, subjective norm, perceived behavioural control, and tourist behavioural intention and established a positive relationship between them. We therefore formulate the following hypothesis:
H10. Satisfaction acts as an intermediary in the connection between perceived value and the intention to ecotourism behavioural intention.
H11. Satisfaction acts as an intermediary in the connection between attitude and the intention to ecotourism behavioural intention.
H12. Satisfaction acts as an intermediary in the connection between subjective norms and the intention to ecotourism behavioural intention.
H13. Satisfaction acts as an intermediary in the connection between perceived behavioural control and ecotourism behavioural intention.

By integrating these hypotheses, Fig. 1 presents a conceptual model.

![Conceptual model](fig1.png)

**Fig. 1: Conceptual model**
(Source: Hultman et al.; Bamberg et al.; Wang & Zhang; Lam & Hs; Zhang et al.; Gallarza & Gil Saura; Füller & Matzler)

### 3.0 Methodology

#### 3.1 Sample
China is a famous world tourist destination with its vast territory and rich natural tourism resources (Dichen & Guangrui, 1983). The destination of this study was chosen to be Shangri-La Potatso National Park in Yunnan, China. Yunnan has rich tourism resources and ranks second in China in tourism revenue in 2022. Public information from the Chinese government shows that Shangri-La is a national nature reserve in China, while Potato National Park is in the core zone of the “Three Rivers Parallel Streams” World Natural Heritage Site, known for its rich bio-diversity, landscape variety, and cultural variety, with national conservation and exhibition value. Potato National Park covers 302.1 square kilometres, with 53.02% of the total area being government-core protected areas and the other 46.98% being generally protected areas. This trip is considered ecotourism because it meets the critical requirements of ecotourism (e.g., nature-based, providing environmental education, and ecological sustainability). The Potatso scenic area is located in a national park with almost no commercial development and is famous for its ecotourism. Tour guides and site managers provide environmental education. Tourism is sustainable, and there is no responsible tourist behaviour, such as throwing garbage or destroying plants.

#### 3.2 Measurements
To quantitatively analyse the variables in the model, the study reviewed the literature and selected the most appropriate scale to measure the variables—five questions on behavioural intentions in ecotourism adapted from Hultman et al. (2015). Five projects with the same attitude were adapted from Bamberg et al. (2003). Wang and Zhang (2017) adapted the six subjective norm items. Perceived Behavioural Control five projects adapted from Lam & Hsu (2006) and Zhang et al. (2017). The five programs of Perceived Value are adapted from Gallarza and Gil Saura (2006). Satisfaction five projects adapted from Gallarza and Gil Saura (2006), Füller and Matzler (2008), and Ladhari et al. (2008). All the scales were assessed using a five-point Likert scale, ranging from (1) strongly disagree to (5) strongly agree.

#### 3.3 Data Collection
The survey used random sampling to collect data. Questionnaire Star was utilised to survey tourists who had previously visited the scenic spot, and only those who had visited Shangri-La Potato National Park could complete the questionnaire. 400 copies were distributed, and 358 were recovered, a recovery rate of 87.5%. The researchers scrutinised each questionnaire received, and 350 were deemed suitable for subsequent data analysis.

#### 3.4 Data Analysis
The collected data were analysed using PLS-SEM.
4.0 Findings

Fig. 2: Results of the path analysis  
(Source: Author)

Fig. 3: Results of bootstrapping  
(Source: Author)
This study examined ecotourism behavioural intention by developing a new model for using the theory of planned behaviour. Interesting phenomena were found based on collecting samples of tourists from ecotourism scenic spots in China and analysing them by PLS-SEM. In the study, the structural validity of the study was assessed before the hypotheses were evaluated, and reliability and construct validity were examined. The composite reliabilities ranging from 0.80 to 0.88 were all statistically valid. However, H4, the impact of perceived value on ecotourism behavioural intention, was not supported as no significant relationship was found. Hypothesis H9 Satisfaction predicts ecotourism behavioural intention, and a statistically significant relationship was found. Therefore, by analysing the mediating effect of satisfaction, the results support the partial mediating effect of satisfaction in the combined model of perceived value and the theory of planned behaviour.

### Table 1: Research model measurements for the study

<table>
<thead>
<tr>
<th>Latent variables</th>
<th>Cronbach’s Alpha</th>
<th>Rho_A</th>
<th>Composite Reliability</th>
<th>Average Variance Extracted (AVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude</td>
<td>0.882</td>
<td>0.903</td>
<td>0.914</td>
<td>0.682</td>
</tr>
<tr>
<td>Ecotourism Behavioural Intention</td>
<td>0.782</td>
<td>0.783</td>
<td>0.859</td>
<td>0.605</td>
</tr>
<tr>
<td>Perceived Behavioural control</td>
<td>0.788</td>
<td>0.789</td>
<td>0.855</td>
<td>0.541</td>
</tr>
<tr>
<td>Perceived value</td>
<td>0.852</td>
<td>0.853</td>
<td>0.894</td>
<td>0.628</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.790</td>
<td>0.793</td>
<td>0.864</td>
<td>0.614</td>
</tr>
<tr>
<td>Subjective norm</td>
<td>0.843</td>
<td>0.846</td>
<td>0.885</td>
<td>0.592</td>
</tr>
</tbody>
</table>

(Source: Author)

The findings of the hypotheses testing are shown in Table 2 below.

### Table 2: Results of hypothesis testing

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Relationship</th>
<th>T statistics</th>
<th>P-values</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Attitude &gt; Ecotourism behavioural intention</td>
<td>3.029</td>
<td>0.002</td>
<td>Accepted</td>
</tr>
<tr>
<td>H2</td>
<td>Subjective norm &gt; Ecotourism behavioural intention</td>
<td>3.404</td>
<td>0.001</td>
<td>Accepted</td>
</tr>
<tr>
<td>H3</td>
<td>Perceived behavioural control &gt; Ecotourism behavioural intention</td>
<td>4.385</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>H4</td>
<td>Perceived value &gt; Ecotourism behavioural intention</td>
<td>1.282</td>
<td>0.200</td>
<td>Rejected</td>
</tr>
<tr>
<td>H5</td>
<td>Attitude &gt; Satisfaction</td>
<td>5.222</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>H6</td>
<td>Subjective norm &gt; Satisfaction</td>
<td>3.577</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>H7</td>
<td>Perceived behavioural control &gt; Satisfaction</td>
<td>2.292</td>
<td>0.022</td>
<td>Accepted</td>
</tr>
<tr>
<td>H8</td>
<td>Perceived value &gt; Satisfaction</td>
<td>4.803</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>H9</td>
<td>Satisfaction &gt; Ecotourism behavioural intention</td>
<td>2.604</td>
<td>0.009</td>
<td>Accepted</td>
</tr>
<tr>
<td>H10</td>
<td>Perceived value &gt; Satisfaction &gt; Ecotourism behavioural intention</td>
<td>2.327</td>
<td>0.020</td>
<td>Accepted</td>
</tr>
<tr>
<td>H11</td>
<td>Attitude &gt; Satisfaction &gt; Ecotourism behavioural intention</td>
<td>2.364</td>
<td>0.018</td>
<td>Accepted</td>
</tr>
<tr>
<td>H12</td>
<td>Subjective norm &gt; Satisfaction &gt; Ecotourism behavioural intention</td>
<td>1.959</td>
<td>0.050</td>
<td>Rejected</td>
</tr>
<tr>
<td>H13</td>
<td>Perceived behavioural control &gt; Satisfaction &gt; Ecotourism behavioural intention</td>
<td>1.537</td>
<td>0.124</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

(Source: Author)

### 4.0 Discussion

The study exhibited more substantial statistical consistency with an R² value of 0.74 (Fig. 2). The structural validity of the study was assessed before the hypotheses were evaluated, and reliability and construct validity were examined. The composite reliability and Cronbach’s alpha were used to test the internal consistency of the constructs, and the Cronbach alpha values ranged from 0.782 to 0.882, with composite reliabilities greater than 0.80, reflecting good internal consistency. To check the validity of the study structure, two aspects, convergence, and discriminative validity, were measured separately. Both validities reflect the relevance of the structures. Convergent validity is the actual correlation between theoretically related structures. The study examined convergent validity using the average variance (AVE) extracted from the item loadings. Table 1 shows that the AVE of the constructs ranged from 0.541 to 0.682, which is higher than 0.50, indicating sufficient internal consistency.

Structural model tests were performed using standardised path coefficients, T-statistics, and P-values. This study used PLS-SEM to analyse the hypotheses, and the results are shown in Table 2. From the T-values and P-values tested, H1, H2, and H3 predicted ecotourism behavioural intention, use of subjective norms, attitudes, and perceived behavioural control, respectively, and the results were all statistically valid. However, H4, the impact of perceived value on ecotourism behavioural intention, was not supported as no significant relationship was found. It is hypothesised that H5 (Attitude), H6 (Subjective Norms), H7 (Perceived Behavioural Control), and H8 (Perceived Value) all have a direct positive effect on satisfaction. Hypothesis H9 Satisfaction predicts ecotourism behavioural intention, and a statistically significant relationship was found. H10, H11, H12, H13 Four hypotheses of satisfaction as a mediating variable turned out to be supported. H10 and H11 didn’t find a statistically student-significant relationship. In contrast, the results do not support H12 and H13 because no significant relationship was found. Therefore, by analysing the mediating effect of satisfaction, the results support the partial mediating effect of satisfaction in the combined model of perceived value and the theory of planned behaviour.

### 5.0 Conclusion & Recommendations

This study examined ecotourism behavioural intention by developing a new model for using the theory of planned behaviour. Interesting phenomena were found based on collecting samples of tourists from ecotourism scenic spots in China and analysing them by PLS-SEM.
SEM. Satisfaction does not mediate between perceived behavioural control, subjective norms, and ecotourism behavioural intentions. This is inconsistent with the findings of Hasan et al. (2020) in the context of mass tourism. Satisfaction can only partially mediate the study of TPB modelling in the context of ecotourism. All independent variables in the study had a positive effect on satisfaction. The study results indicate that satisfaction is not only the tourists' evaluation of their ecotourism experience but also an important factor influencing their future behaviour. Perceived value has no significant effect on behavioural intentions towards ecotourism, which is inconsistent with the results of traditional consumer behaviour research and maybe because ecotourism has special social and environmental attributes that lead tourists to give more consideration to the non-economic value of ecotourism.

The implication of this study for ecotourism management is to positively influence ecotourism tourists' attitudes, subjective norms, and perceived behavioural control in terms of public opinion propaganda, and so on, to shape a good social image and atmosphere of ecotourism and to enhance tourists' capabilities in terms of time, energy, and other aspects, while enhancing tourists' ecotourism behavioural intentions. In addition, improving the perceived value of ecotourism tourists can improve satisfaction, and the growth of satisfaction can effectively promote the increase of ecotourism behavioural intention, thus promoting the sustainable development of ecotourism.

This study uses an expanded TPB model to study the influencing factors of ecotourism behaviour intention. It discusses variables such as perceived value, attitude, subjective norms, perceived behaviour control, and satisfaction. Although, the extended model of TPB proposed by the study provides a new explanation for the study. However, there are some limitations in analysing the results of the study. For example, this study did not include variables like demographics, geography, or experience. There may be more potential influences on people's ecotourism behavioural intention. In addition, the sample was collected in too few locations, which may affect the generalisation of the results.

In the future, to avoid the above limitations. It may be possible to continue to extend the TPB model in the future in light of the ecotourism context and, therefore, understand more accurately the factors influencing ecotourism behavioural intention. Future data releases could add as many ecotourism destinations as possible, which would better explain tourists' ecotourism behavioural intention.

**Paper Contribution to Related Field of Study**

Policymakers should focus more on establishing environmental awareness and a sense of responsibility, as these are key factors in developing ecotourism. Improving tourist satisfaction is equally crucial for the sustainable development of ecotourism.

**References**


