Original Research Paper

Millennial Visitors' Intentional Behavior with Environmental Concern for Developing the Turtle Edu-Tourism Marketing Strategy in Bajulmati Sea Turtle Conservation (BSTC), Indonesia

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Abstract: Tourism is important to the economy, yet it may affect the environment if conservation efforts are not implemented. Ecotourism is a tourism trend also being implemented in the Bajulmati Sea Turtle Conservation (BSTC) Edu-tourism in East Java. Turtle conservation and ecotourism are top priorities for BSTC. Millennials' enthusiasm for visiting BSTC varies with their level of environmental concern. To evaluate if millennial visitors will visit turtle Edu-tourism, this research will investigate how environmental concern influence their behavior, either directly or indirectly. The visitor behavior will then serve as the foundation for building the turtle Edu-tourism marketing strategy. This study surveyed 572 millennials. SEM-Warp PLS was used to analyze the data. The millennial generation's environmental concern determined their interest in Turtle's Edu-tourism BSTC when mediated by attitude, subjective norm, and perceived behavior control. Based on the millennials' interest in BSTC, the marketing strategy is to first improve behavior control perception, then subjective norms and attitudes. Particularly since the TPB component is effective in mediating the relationship between environmental concerns, the study's findings broaden the application of TPB. Increased subjective norms, attitudes, and behavior control are major predictors of visit intention. Local governments should continue to foster economic growth to support travel expenditures and the community's economy. BSTC managers should optimize social media marketing for millennials and their friends. Millennials' friends can promote Turtle's BSTC Edu-tourism. BSTC managers also consistently conserve turtles and their environment to improve millennial visitors' environmental concerns and post the conservation activities on social media to raise millennials' environmental concerns, which can increase BSTC visits.

Keywords: Environmental Concern, Marketing Strategy, Millennial Visit Intention, Turtle and Coastal Edu-Tourism, TPB

Introduction

The Indonesian tourist industry contributes to national growth (Ayunisa, 2018). However, if the utilization of natural resources for tourism is prioritized, it might harm the resources. To lessen the environmental effect of this utilization, tourism should follow the ecotourism principle (Handriana and Ambara, 2016), thus, excellent tourism is ensured since it preserves the quality and beauty of natural objects and moves the area economy (Setyadi *et al.*, 2012). Bajulmati Sea Turtle Conservation (BSTC) Edu-tourism, also known as the "capital of turtles", is a coastal tourist destination in Indonesia that implements the ecotourism concept. This research could help in increasing the number

of tourist visits by developing a marketing strategy based on millennial visitors' intentions as influenced by environmental concerns and followed by the TPB construct. This will enable the goals of ecotourism and develop the number of visits to coexist.

Coastal tourist visits in Malang Regency decreased from 2015-2019 (Dinas Pariwisata dan Kebudayaan Kabupaten Malang, 2018). This is also due to the disparity in environmental concern between visitors and the community, notably the millennial generation, prompting an interest in visiting ecotourism places that have adopted ecotourism. As a result, environmental concern must be enhanced among the millennial generation, which readily transmits environmentally favorable knowledge and behavior. If the millennial generation's environmental concern becomes a factor of visit interest and is mediated by the Theory of Planned Behavior (TPB) construct, then this research is critical in developing the turtle Edu-tourism marketing strategy.

This study will give more empirical proof of the use of Environmental Concern (EC) as an extension of TPB. The goal of this study is to develop a coastal ecotourism that applies the ecotourism principle by developing a marketing strategy based on millennial visitors' intentional behavior. Previous studies employing TPB by Yadav and Pathak (2016) in the context of buying eco-friendly items, did not link EC to Subjective Norms (SN) and Behavior Control (PBC). Study Sun and Wang (2019) in the context of purchasing ecologically friendly items without EC. EC is a key characteristic that determines the propensity to buy environmentally friendly items (Chaudhary and Bisai, 2018; Sun and Wang, 2019) and also allegedly on environmentally friendly tourism services. Besides that, other researchers (Chen and Tung, 2014) stated that EC impacts subjective norms and perceptions of behavior control, which might alter customer intentions. In previous research, consumer behavior in developed nations like South Korea was analyzed (Ha and Janda, 2012); the United States of America (Choi and Johnson 2019; Schniederjans and Starkey, 2014; DiPietro *et al.*, 2013), German (Klein *et al.*, 2019), Spanish (Sarabia-Andreu and Sarabia-Sánchez, 2018), Bosnia and Herzegovina (Mangafić *et al.*, 2017). There are still a few research in developing countries like Malaysia (Al Mamun *et al.*, 2018), India (Paul *et al.*, 2016), China (Hsu *et al.*, 2017), and Indonesia (Abidin *et al.*, 2022). As far as researchers know, no research examines millennial interest and marketing strategy in Indonesian turtle Edu-tourism. Based on these challenges and limitations, researchers' study "millennial visitors' intentional behavior with environmental concern for developing the turtle Edu-tourism marketing strategy". This study intends to: (1) Analyze the impact of millennial environmental concern in affecting the visit intention to the Turtle's Edu-tourism, (2) Analyze the role of the TPB construct in mediating this influence and (3) Develop a

marketing strategy for turtle Edu-tourism based on the millennial visitors' intentional behavior.

The theory of Planned Behavior (TPB) comes from the development of the Theory of Reasoned Action (Ramdhani *et al.*, 2016). According to this theory, human behavior is based on three forms of considerations: Behavior beliefs, normative views, and control beliefs, which establish attitudes toward behavior, subjective norms, and behavior of behavior, all of which contribute to the construction of behavior intents (Yadav and Pathak, 2017).

TPB predictor variables include attitudes, subjective norms, and perceptions of behavior control. Attitude is an evaluation of someone who engages in good or bad behavior, or who supports or opposes behavior. The more advantageous an activity is for a person's attitude toward it, the more they must perform it (Ajzen, 1991). Subjective norms pertain to someone's perception of whether or not he must perform the conduct under consideration. The more people who believe that other people who are important to him believe that he must do something, the more he will do it. Perception of behavior control is a feeling of ease or difficulty in doing specific behaviors, which is considered to reflect previous experiences and foresee a problem (Ajzen, 2005).

The Theory of Planned Behavior (TPB) has been found to predict consumer intentions and behavior in a variety of fields (Sheppard *et al.*, 1988). One of them can also be used to forecast consumer intentions and broad behavior in various environmental matters such as products, hotels, and green restaurants (Han *et al.*, 2010; Yadav and Pathak, 2016; Sun and Wang, 2019; Chen and Tung, 2014; Kim *et al.*, 2013).

In the context of millennial generation literature, the millennial generation is chosen because it is at a productive age and is expected to be the economic foundation for the next 10 years. Furthermore, the millennial generation is a future consumer. When it comes to problems in this study, environmental damage caused by tourism in Indonesia becomes a challenge that the millennial generation must confront and fix by increasing the importance of environmental concern. Previous millennial generation research findings conducted by Yadav and Pathak (2016); Sreen *et al.* (2018) show that all TPB structures have a considerable impact on young consumers' intentions to buy environmentally friendly products.

Environmental concern is a strong desire to safeguard the environment. Individual environmental concerns or support for environmental protection influences the selection of product qualities (Kushwah *et al.*, 2019). Consumer perceptions of the product and behavior will be influenced by environmental concerns (Kushwah *et al.*, 2019). Environmental concern is a significant variable that can influence purchasing intentions by influencing attitudes, subjective norms, and perceptions of behavioral control (Chen and Tung, 2014). Even in its development, environmental concern influences direct purchase

intention (Hartmann and Apaolaza, 2012; Yadav and Pathak, 2016). Previous research conducted by Corral (2003); Freire da Silva (2014) has emphasized the importance of environmental concern in assessing the company's intention to adopt cleaner technology. This demonstrates the significance of environmental concern; individual intentions and behavior. Many environmental issues have begun to be Lestari and Trihadiningrum, (2019). Social scientists are among those who draw attention to environmental issues. The existence of environmental problems causes social scientists to become interested in conducting research on a person's motivation to engage in a particular environmental behavior (Maloney and Ward, 1973).

Ecotourism, as an environmentally friendly tour, is a solution to the problem of tourism-related environmental damage. The findings of previous research conducted by Haines *et al.* (2008) who examined the intention to state that consumer environmental concern can have an indirect impact on its intention to visit green hotels through attitudes, subjective norms, and perceptions of behavior control.

Materials and Methods

This research was carried out in Bajulmati Sea Turtle Conservation (BSTC) Edu-tourism (Fig. 2) during April and May 2022. It is a coastal Edu-tourism that conserves turtles in the Malang Regency of East Java Province, Indonesia.

The survey method was used in this explanatory research design. By accidental sampling, 572 millennial domestic visitors were selected as respondents. The Krejcie-Morgan sampling table with a 5% significance level, determines the number of respondents, which is a minimum of 217 persons because historical data visits each year are only around 6,000 people.

Questionnaires, Google Forms, and WarpPLS software were the instruments and resources used in this study. Data on visitor behavior was gathered using surveys and Google forms, and was then analyzed using WarpPLS method by Warp PLS 6.0 software. The research variable employed in this study is based on the theory and prior research and it serves as the foundation for developing the hypothesis model Fig. 1.

This research variable is separated into exogenous variables (X1: Environmental concern, X2: attitude, X3: Subjective norm and X4: Behavioral control perception) and endogenous variables (visit intention, Y). In this study, the positions of variables X2, X3, and X4 are also referred to as mediation variables.

The following hypotheses can be offered based on prior study and theory:

H_1: The millennial Visitor's Attitude (ATT) has a beneficial effect on Visit Intention (VI) to the Turtle's Edu-tourism BSTC

H_2: Subjective Norms (NS) of the millennial visitor has an impact on VI to the turtle's Edu-tourism BSTC

H_3: The Perception of Behavioral Control (PBC) of the millennial visitor has a good impact on VI to the turtle's Edu-tourism BSTC

H_4: Environmental Concern (EC) has a significant impact on Attitude (ATT)

H_5: Environmental Concern (EC) has a significant impact on Subjective Norm (SN)

H_6: Environmental Concern (EC) has a significant impact on Perceived Behavioral Control (PBC)

H_7: Environmental Concern (EC) has a significant impact on VI to the turtle's Edu-tourism BSTC

H_8: TPB constructs (attitude, subjective norm, and perception of behavior control) mediating the relationship between Environmental Concern (EC) and interest in visiting the turtle's Edu-tourism BSTC
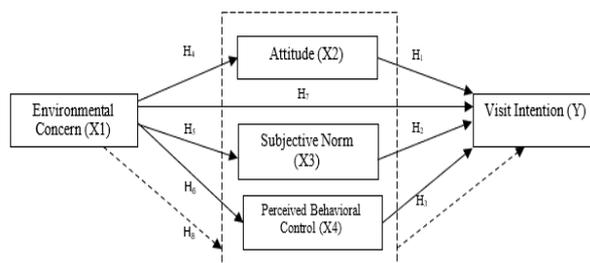

Fig. 1: Hypothesis model

Fig. 2: Front view of BSTC Edu-tourism

Results

A General Description of the Study Site

This research was conducted at the Bajulmati Sea Turtle Conservation (BSTC) Edu-tourism site on Bajulmati Beach, Gedangan district, Malang Regency, East Java province of Indonesia, which is recognized as the turtle capital. The BSTC was created by destroyers who afterward turned conservationists. They started actively in turtle conservation around 2009, which increased their knowledge of the need for environmental preservation. Turtles are endangered due to their diminishing population. Turtles also help to maintain the ecosystem's balance. Turtle conservation in this location began in 2009 in response to the community's concern about preserving turtles from animal predators and humans who regularly utilize turtle eggs.

BSTC has directly conserved four types of turtles that have landed to lay eggs on the South Malang coast. They are the green turtle (*Chelonia mydas*), hawksbill turtle (*Eretmochelys imbricata*), olive ridley turtle (*Lepidochelys olivacea*), and starfruit turtle (*Dermochelys coriacea*). The four turtles have been spotted on the South Malang coast (Figs. 3-6).

Fig. 3: Green turtle (*Chelonia mydas*) (BSTC, 2023a)
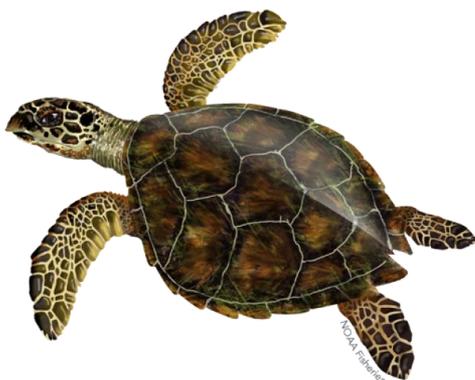
Fig. 4: Hawksbill turtle (*Eretmochelys imbricata*) (BSTC, 2023b)

Fig. 5: Olive ridley (*Lepidochelys olivacea*) (BSTC, 2023c)

Fig. 6: Starfruit turtle (*Dermochelys coriacea*) (BSTC, 2023d)

In BSTC, there are many tourist attractions such as hatchling care and release, turtle patrols, turtle rescue, and mangrove planting, which are usually held from November to February. There is also a series of coastal education activities carried out on Monday and Tuesday, as well as the BSTC natural school, which was open to the public from May to October. There are several supporting amenities at BSTC, including a post office, a camping ground (in a mangrove forest area), a relaxation area, and a nature school and restrooms.

Respondent Profile of BSTC Edu-Tourism

According to the data processing of respondent profiles in BSTC, the population of past visitors in the research region, commonly in Southern Malang, was also dominated by young people. It is also important to the demographic characteristics of respondents, who had an average age of 17-30 years (94%) and 31-40 years (6%), with females (65%) and males (35%). The majority are unmarried (single) (95%), married without children (2%), and married with children (3%). They came from places like Malang City (20.42%), South Malang (11.87%), Kediri (4.56%), Sidoarjo (3.32%), Pasuruan (2.92%), Mojokerto (2.79%), Nganjuk (2.62%), Surabaya (1.92%) and others in East Java Province. Those who came from Jabodetabek also came from DKI Jakarta (5.41%), Bekasi (4.19%), Tangerang (1.92%), Depok (0.70%) and other parts of Indonesia (31, 8%).

Table 1: Average Variances Extracted (AVE)

Component	X1	X2	X3	X4	Y
AVE	0.511	0.690	0.782	0.595	0.657

Table 2: Results of loading factors and significance of the construct variables

Variable	Indicator	Loading factor	p-value	Information
X1	X1.2	0.712	<0.001	Fulfill the
	X1.3	0.772	<0.001	convergent
	X1.4	0.738	<0.001	validity
	X1.5	0.630	<0.001	
X2	X2.1	0.885	<0.001	Fulfill the
	X2.2	0.836	<0.001	convergent
	X2.3	0.801	<0.001	validity
X3	X3.1	0.886	<0.001	Fulfill the
	X3.2	0.887	<0.001	convergent
	X3.3	0.880	<0.001	validity
X4	X4.1	0.767	<0.001	Fulfill the
	X4.2	0.818	<0.001	convergent
	X4.3	0.801	<0.001	validity
	X4.4	0.724	<0.001	
	X4.5	0.744	<0.001	
Y	Y.1	0.826	<0.001	Fulfill the
	Y.2	0.794	<0.001	convergent
	Y.3	0.806	<0.001	validity
	Y.4	0.816	<0.001	

They have a reasonably high level of education or have completed secondary education (22%), with the most prevalent activities being students (91%), private employees (29%), civil servants (1%), entrepreneurs (2%), housewives (2%) and others (1%). Finally, the majority of them with a frequency of visits once (78%), twice (17%), and more than two frequencies of visits (5%).

Inferential Statistical Analysis

Inferential statistics are used to assess the causal relationship between variables. WarpPLS was used to analyze the data in the following ways.

Outer Model Test

The first step taken is to evaluate the measurement model to find out the relationship between the latent variable and its indicators with the following explanation.

Convergent Validity

Convergent validity is measured using a loading factor for a reflective indicator model with a factor loading value ≥0.3 or significant (Solimun *et al.*, 2017). It is known that all models of this research indicator are reflective indicators. In addition, convergent validity can be determined based on the Average Variances Extracted (AVE) value >0.5. In this study, all variables have AVE value >0.5. The following AVE values all research variables in Table 1.

The details of the convergent validity test using the loading factor are explained in Table 2, where all

variables meet the convergent validity criteria, which is >0.3 and or significant.

Discriminant Validity

Discriminant validity can be proven using 2 ways. First, by comparing the loading factor and cross-loading factor, if the loading value of an indicator is greater than the cross-loading value, the indicator concerned meets the discriminant validity (this method is to express the validity of the indicator). Second, the way to express the validity of the discriminant questionnaire, namely by comparing the square roots value of AVEs (sq. rts. of AVEs) with the correlation coefficient, if the AVEs square roots are greater than the correlation coefficient with other variables, the questionnaire is declared valid discriminant. Discriminant validity analysis results according to the first way can be seen in Table 3, while the second method can be seen in Table 4.

According to Table 4, the first method of discriminant validity, namely the loading factor value of each indicator, is greater than the cross-loading value in each of the same lines, indicating that the indicator in question meets the validity of discriminant or validity indicators (indicators declared valid). The second method is then used to assess discriminant validity by examining the value that the AVEs square root in each column of Table 4 is greater than the correlation coefficient with other variables in each column as well.

According to Table 4, the AVEs square root in each column is bigger than the correlation coefficient with other variables in each column, indicating that the research questionnaire is a valid discriminant. Based on this description, it is possible to conclude that the overall requirements for discriminant validity were met in this study. The questionnaire and indicators are certified valid and generate valid data, allowing the findings of the data analysis to be accounted for and utilized to predict the intentional behavior of millennial visitors to the turtle's Edu-tourism.

Reliability Measurement: Composite Reliability and Cronbach's Alpha

Composite reliability testing is a test conducted to see the size of the data in the research instrument. The output used to determine the reliability of a questionnaire and data is by composite reliability and Cronbach's alpha, where composite reliability must be valued above 0.70; and Cronbach's Alpha must be worth above 0.60 as a condition of reliability (Solimun *et al.*, 2017). The value of composite reliability and Cronbach's alpha in this study can be seen in Table 5 and both meet.

Table 3: Loading and cross-loading results between constructs

Variable Indicator	X1	X2	X3	X4	Y	Type (as defined)	SE	p-value
X1.2	0.712	-0.043	0.010	0.001	-0.099	Reflective	0.039	<0.001
X1.3	0.772	-0.131	0.008	-0.056	0.115	Reflective	0.038	<0.001
X1.4	0.738	-0.086	0.048	0.006	0.042	Reflective	0.038	<0.001
X1.5	0,630	0.310	-0.077	0.073	-0.078	Reflective	0.039	<0.001
X2.1	-0.013	0.855	-0.049	0.094	-0.072	Reflective	0.038	<0.001
X2.2	0.018	0.836	-0.030	-0.020	-0.034	Reflective	0.038	<0.001
X2.3	-0.001	0.801	0.084	-0.078	0.113	Reflective	0.038	<0.001
X3.1	-0.001	0.048	0.886	-0,052	0.004	Reflective	0.038	<0.001
X3.2	0.032	-0.037	0.887	0.033	-0.062	Reflective	0.038	<0.001
X3.3	-0.031	-0.011	0.880	0.020	0.058	Reflective	0.038	<0.001
X4.1	-0.029	0.063	-0.034	0.767	-0.033	Reflective	0.038	<0.001
X4.2	-0.040	0.083	-0.019	0.818	-0.154	Reflective	0.038	<0.001
X4.3	-0.013	-0.021	-0.077	0.801	-0.062	Reflective	0.038	<0.001
X4.4	0.048	-0.041	0.131	0.724	0.084	Reflective	0.039	<0.001
X4.5	0.042	-0.093	0.011	0.744	0.189	Reflective	0.038	<0.001
Y.1	-0.041	0.084	-0.111	0.138	0.826	Reflective	0.038	<0.001
Y.2	0.045	-0.025	0.092	-0.032	0.794	Reflective	0.038	<0.001
Y.3	-0.016	-0.039	-0.121	0.050	0.806	Reflective	0.038	<0.001
Y.4	0.013	-0.121	0.143	-0.158	0.816	Reflective	0.038	<0.001

Table 4: Results of the root value of the squares of AVEs (Sq. rts. of AVEs)

	X1	X2	X3	X4	Y
X1	(0.715)	0.367	0.255	0.373	0.278
X2	0.367	(0.831)	0.504	0.571	0.533
X3	0.255	0.504	(0.884)	0.511	0.595
X4	0.373	0.571	0.511	(0.772)	0.622
Y	0.278	0.533	0.595	0.622	(0.811)

Note: The square root of the AVEs is displayed on the diagonal (thick print, in brackets)

Table 5: Latent Coefficient variable results

	X1	X2	X3	X4	Y	Information
Composite Reliability	0.806	0.870	0.915	0.880	0.885	Fulfill
Cronbach's Alpha	0.679	0.775	0.860	0.829	0.826	Fulfill

According to Table 5, composite reliability and Cronbach's alpha are good for each construct variable X1, X2, X3, X4, and Y. Based on these findings, it is possible to conclude that each variable construct has a high-reliability value. As can be seen, the value of all composite reliability values is greater than 0.70 and Cronbach's Alpha is greater than 0.60 in each variable construct.

Inner Model Test

After testing the evaluation of the measurement model (outer model), convergent validity, discriminant validity, composite reliability, and Cronbach's alpha have met the requirements. The next stage carried out is the evaluation of the structural model (inner model) which includes the model compatibility test (model fit) and R^2.

Model fit is used to determine whether the model is compatible with the data. The model fit has ten test indexes (Solimun *et al.*, 2017). Table 6 shows the output results of the fit indices model in this study.

According to the results of assessing the fit and quality indices model in Table 6, all requirements are met, indicating that the model developed by WarpPLS is suitable for predicting the intentional behavior of millennial ecotourists in the BSTC Edu-tourism.

Structural models in WarpPLS are tested using R^2 for mediation variables and dependent variables. Path coefficient and p-value test model significance between variables. R^2 calculates the degree of variance in independent variable values relative to the dependent variable. The R^2 value in the structural model can be classified into three categories: considerable or strong (0.67), moderate (0.33), and weak (0.19) (Iskandar and Saragih, 2018). Table 7 shows the findings of the R^2 value.

The value of R^2 of X2 is 0.137, which means that the environmental concern variable (X1) has the potential to explain variations of attitude changes (X2) of 0.137 or 13.7%, while the rest is explained by other factors that do not yet exist in the model. Similarly, the R^2 values for X3 and X4 are 0.089 and 0.153, respectively. Whereas the environmental concern variable (X1) has the potential to explain variations in subjective norm modifications (X3) of 8.9% and behavioral control perceptions (X4) of 15.3%, the rest is explained by other factors that do not exist in the model. Finally, the R^2 of visit intention (Y) is 0.609, indicating that the environmental concern variable (X1) can explain 60.9% of the variation in changes in visit intention (Y), with the rest explained by variables not yet included in the model.

The variable of visit intention produces the highest R^2 value based on the data studied. As a result, growing interest in traveling to the turtle's Edu-tourism in BSTC is the primary emphasis in order to increase the decision to visit the destination.

Table 6: Model fit and quality indices

No.	Model Fit and Quality Indicides	Result	Criteria	Information
1	Average Path Coefficient (APC)	0.274, p<0.001	p-value <0.001	Fulfill, accepted
2	Average R-Square (ARS)	0.214, p<0.001	p-value <0.001	Fulfill, accepted
3	Average Adjusted R-Square (AARS)	0.212, p<0.001	p-value <0.001	Fulfill, accepted
4	Average Blok VIF (AVIF)	1.570	Acceptable if ≤5, ideally ≤3.3	Ideal, accepted
5	Average Full Collinearity VIF (AFVIF)	1.734	Acceptable if ≤5, ideally ≤3.3	Ideal, accepted
6	Tenenhaus GoF (GoF)	0.372	Small ≥0.1 Medium ≥0.25 large ≥0,36	Large, accepted
7	Sympson's Paradox Rasio (SPR)	0.857	Acceptable if ≥0.7, ideally = 1	accepted
8	R-Squared Contribution Rasio (RSCR)	0.984	Acceptable if ≥0.9, ideally = 1	accepted
9	Statistical suppression ratio (SSR)	1.000	Acceptable if ≥0.7	accepted
10	Nonlinear Bivariate Causality Direction Rasio (NLBCDR)	1.000	Acceptable if ≥0.7	accepted

Table 7: R^2

No.	Variables	R^2	Interpretation	Information
1	Attitude (X2)	0.137	Weak	R^2 <0.19
2	Subjective norm (X3)	0.089	Weak	R^2 <0.19
3	Perceived behavioral control perception (X4)	0.153	Weak	R^2 <0.19
4	Visit intention (Y)	0.609	Moderate	0.19< R^2 <0.69

Table 8: Profile summary of research variables

Variable	Indicators and codes	Loading factors	Average score	and interpretation
Environmental concern (X1)	X1.2: The proclivity to damage the environment	0.712	4.06	4.14 (High environmental concern)
	X1.3: The usage of nature frequently has a negative impact.	0.772	3.88	
	X1.4: The balance of nature is sensitive and easily disturbed.	0.738	4.17	
	X1.5: South Malang is environmentally conscious.	0.630	4.46	
Attitude (X2)	X2.1: Traveling to BSTC is a good idea	0.855	4.34	4.27 (Very high attitude)
	X2.2: Traveling to BSTC is fun	0.836	4.31	
	X2.3: Traveling to BSTC as one of the desires	0.801	4.15	
Subjective norm (X3)	X3.1: Visit BSTC based on what friends say	0.886	3.95	3.95 (High subjective norms)
	X3.2: Visit BSTC based on what friends want	0.887	3.95	
	X3.3: Visit BSTC based on what friends expect	0.880	3.94	
Perceived behavioral control (X4)	X4.1: Control traveling to BSTC depends on yourself	0.767	4.27	4.21 (Perception of very high behavior control)
	X4.2: Self-sure can visit BSTC	0.818	4.24	
	X4.3: Self-confident about visiting BSTC	0.801	4.27	
	X4.4: Self-sure will visit BSTC	0.724	4.10	
	X4.5: You want and have resources, time and opportunities to travel to BSTC	0,744	4.16	
Visit intention (Y)	Y.1: Willingness to choose BSTC for tourist destinations	0.826	4.16	4.09 (High visit intention)
	Y.2: Plan to visit BSTC	0.794	4.15	
	Y.3: Effort to visit BSTC	0.806	4.08	
	Y4: Planning the time allocation is more for BSTC than others	0.816	3.98	

Variable Profiles

Profiles of variables give combined identification information on key indicators of each research variable based on the loading factor value and the empirical condition of a variable using the average score value. The increasing value of an indicator's factors indicates that the indicator is better at reflecting a variable or is an important indicator (Solimun *et al.*, 2017). Thus, the indicator of a variable with the largest factor reflects the indicator as the most important or strongest in reflecting a variable. Solimun *et al.* (2017) also explain that the average answer value of each item/indicator shows the empirical condition of a variable that can be used as explanatory information on the good or bad degrees of a variable. A profile summary of these research variables is presented in Table 8.

Hypothesis Testing

The empirical data acquired from 572 respondents were used to test the research hypothesis. In this study, the postulated hypothesis was investigated using the p-value with alpha levels <0.05. As a consequence, all hypotheses are accepted with the exception of hypothesis 7, which is the direct association between environmental concern (X1) and visit intention (Y). In Table 9, the hypothesis test is shown in the path coefficient value that describes the direct and indirect influence, as well as the p-value (the level of significance).

Table 9: Hypothesis test results

Hypothesis	Paths	β Coefficient	p-value	Relationship
H_1	ATT ——> VI	0.142	<0.001***	Accepted
H_2	SN ——> VI	0.325	<0.001***	Accepted
H_3	PBC ——> VI	0.352	<0.001***	Accepted
H_4	EC ——> ATT	0.370	<0.001***	Accepted
H_5	EC ——> SN	0.298	<0.001***	Accepted
H_6	EC ——> PBC	0.391	<0.001***	Accepted
H_7	EC ——> VI	-0.042	0.155[ns]	Rejected
H_8	EC –> ATT, NS, PBC –> VI	0.287	<0.001***	Accepted

Information:

EC : Environmental concern
ATT : Attitude
SN : Subjective norm
PBC : Behavioral control perception
VI : Visit intention
*** : A significant coefficient at level p-value 0.01 (<0.05), where H_1-H_6: Direct relationships; H_8: Indirect relationship;
Ns : Non-significant
H_7 : Rejected because p-value >0.05, where H_7 is a direct relationship of EC-VI

Table 10: Direct effects, indirect effects, and priority effectiveness of effects between variables

Variable type			Type of influence			Priority effectiveness of influence	
			Direct Effect (DE) β (p-value)	Indirect Effect (IE) β (p-value)	Total Effect (TE) β (p-value)	All path to VI (DE and IE)	DE to VI
P	M	R					
ATT	-	VI	0.142 (<0.001)***	-	0.142 (<0.001)***	4	3
SN	-	VI	0.325 (<0.001)***	-	0.325 (<0.001)***	2	2
PBC	-	VI	0.352 (<0.001)***	-	0.352 (<0.001)***	1	1
EC	ATT	VI	-	0.287 (<0.001)***	0.245 <0.001***	3	-
	SN		-				
	PBC		-				
	-		-0.042 (0.155)[ns]	-	-	-	-
EC	-	ATT	0.370 (<0.001)***	-	0.370 (<0.001)***	-	-
EC	-	SN	0.298 (<0.001)***	-	0.298 (<0.001)***	-	-
EC	-	PBC	0.391 (<0.001)***	-	0.391 (<0.001)***	-	-

Information:

EC : Environmental concern
ATT : Attitude
SN : Subjective norm
PBC : Behavioral control perception
VI : Visit intention
P : Explanatory (predictor), M: mediation, and R: Response
*** : Significant at p-value <0.05, while ns: Not significant

Table 9 shows that the TPB constructs variables of attitudes, subjective norms, and perceptions of behavior control are found to positively and significantly directly determine the amount of interest in traveling at a level of p-value <0.05; however, hypothesis 7 (the existence of positive and direct relationships between environmental concern and tourism interest) is insignificant. Meanwhile, at the level of p-value <0.05 the involvement of environmental concern variables influences the magnitude of the TPB construct variables in the form of attitudes, subjective norms, and behavior control judgments of positive and substantial. At p-value <0.05 level, the indirect relationship between environmental concern and tourism interests mediated by the three

TPB constructs at the BSTC Edu-tourism was also positive and significant. As a result, all hypotheses are accepted except Hypothesis 7. Table 10 summarizes the outcomes of hypothesis testing. Based on the results of hypothesis testing, the priority of effectiveness of influence on tourism visit intention, both from direct, indirect, and total effect (Table 10).

According to Table 10, the priority of the total effectiveness of the environmental concern variable on interest in visiting BSTC, both directly and through three TPB construct variables: First and foremost, the PBC's direct relationship to VI (total effects: 0.352 and significant at <0.05). Second, there is a direct relationship between SN and VI (total effect: 0.325 and significant at <0.05). Third, three TPB construct

variables moderate the EC's indirect relationship to VI (total effect: 0.245 and significant at <0.05). Finally, ATT's direct relationship to VI (total effect: 0.142 and significant at <0.01).

Discussion: TPB Constructs Mediate the Role of Environmental Concern in the Visit Intention to Turtle's Edu-Tourism in BSTC

According to the Theory of Planned Behavior (TPB), three antecedents of behavioral intentions are attitudes, subjective norms, and perceptions of behavior control. This study tries to expand the TPB and prior research in particular. The purpose of the TPB expansion is to examine the role of the environmental concern variable in the case of millennial visit intention to BSTC Edu-tourism. In this scenario, the effectiveness of mediation is tested against the direct relationship between environmental concerns and tourism interests. The role of mediation of three TPB constructs demonstrated success as a mediation variable on the interest in travel after testing the role of ATT, SN, and PBC as a mediation variable the influence between environmental concern and tourist interests. The prepared hypothesis is tested using a p-value <0.05.

The empirical data provided comes from 572 BSTC Edu-tourism respondents. The results reveal that the validity and reliability tests pass all criteria and support all five hypotheses in the structural equation model. The findings of the millennial visit interest model can be regarded to be useful and can be utilized or contribute to practical and theoretical implications.

Research hypotheses have been tested and all show significant results, except hypothesis 7 (EC-VI). Next is a discussion of the influence between research variables. This study focuses on discussing direct and indirect relationships between the environmental concern model to the visit intention. There are 2 groups of influence between variables discussed:

a) The direct influence of environmental concern on visit intention
b) The role of the effectiveness of the construct of TPB variables as a mediation of the influence of environmental concern on visit intention

Data examination of the three TPB construct factors was found to be an absolute mediator on the influence of environmental concern on the interest in visiting BSTC Edu-tourism in this study.

PBC or the perception of behavior control in this study in the form of controls of traveling to BSTC depends on themselves and the will, ability, and ownership of resources, time, and opportunities so that

they are sure to travel to BSTC. Respondents considered the choice of traveling to BSTC was in accordance with what was thought, desirable, and expected by the people closest to them. The attitude of BSTC visitors includes the idea of traveling to BSTC as a very good, fun idea and part of their wishes. They have a high Environmental Concern (EC) that is shown by the perception that humans tend to abuse the environment, the use of nature often has a negative impact, the balance of nature is very sensitive and easily disturbed and they are also concerned about the natural conditions of the coastal in South Malang so as to try environmentally friendly.

PBC was likewise found to be the strongest predictor of visit intention to the turtle's Edu-tourism in BSTC, followed by a direct effect from SN, an indirect effect (mediation) by three TPB constructs, and finally the direct influence of ATT. The marketing strategy that may be given based on the behavior of the millennial generation's interest in BSTC is primarily by raising the perception of behavior control, followed by a rise in subjective norms and attitudes. Especially since the involvement of the three TPB constructs is critical in mediating the relationship between increased environmental concerns and increasing motivation in traveling. In order to keep tourism spending and the local economy going strong, the government at the local level should continue to promote economic growth. Managers at BSTC should optimize social media marketing strategies, which are extensively used by those related to millennials and are typically used by millennials. As a result, the friends of millennials can encourage their friends to visit Turtle's Edu-tourism BSTC. BSTC management also regularly protects turtles and the environment to improve the environmental concerns of millennial tourists. Additionally, BSTC managers promote conservation actions on social media to raise the environmental concern of millennials, which can boost the number of people who come to BSTC.
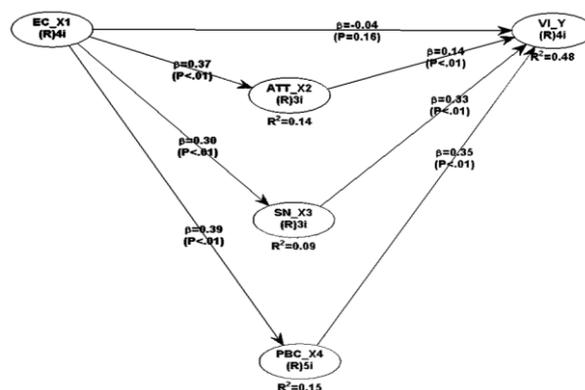

Fig. 7: Depicts the research results model

The study findings (Fig. 7) make an empirical contribution by providing additional empirical evidence of the application of Environmental Concerns (EC) as an expansion of TPB, where the position of EC as a determinant of interest in millennials' coastal ecotourism tours is mediated by the TPB construct in the form of attitudes, subjective norms and perception of behavior control. The findings of this study also extend previous research by Chaudhary and Bisai (2018); Sun and Wang (2018) the millennial environment influences the intention to purchase environmentally friendly products. Because the research focuses on turtle Edu-tourism, the findings are said to have expanded the application of previous research by Chaudhary and Bisai (2018); Sun and Wang (2019), specifically, it expanded its application on research objects in the form of turtle's Edu-tourism in Indonesia as a developing country. Furthermore, the findings of this study expand on previous research by Chen and Tung (2014) related to the environmental concern that influences the decision to book a green hotel, as well as by Yadav and Pathak (2016); Sreen *et al.* (2018) investigated the environmental concerns that influence millennials' intentions to purchase green products.

Conclusion

The important role of attitude, subjective norms, and perception of behavior control in mediating the influence of environmental concern on the visit intention of the millennial generation to the turtle's Edu-tourism in BSTC has been demonstrated to be effective. Marketing strategy based on the millennial generation's visit intention in BSTC can be offered primarily by raising the perception of behavior control, subjective norms, and attitudes.

The managers of BSTC Edu-tourism should continue to make efforts to improve the millennial generation's environmental concern in order to protect the turtle population in this area, among other things, by constantly teaching tourists and prospective visitors how to conduct and behave environmentally friendly while visiting the turtle ecotourism area. Also, use social media to promote conservation efforts as a marketing strategy to increase millennials' environmental concern and visit Turtle's Edu-tourism BSTC. Furthermore, the local government should continue to encourage economic growth in order to keep tourism spending and the local economy robust.

Acknowledgment

Funding Information

Author's Contributions

Nuddin Harahab: Contributed to the literature review, designed and organized the research, analyzed the results, and wrote the manuscript.

Zainal Abidin: Contributed to conceptualization, analyzed the data, co-analyzed the results and wrote, edited and reviewed the manuscript, also corresponding author.

Abdul W. Muhaimin: Contributed to co-analyzing the data, co-analyzing the results and edited and reviewed the manuscript.

Ika Sulistiyani: Contributed to collected data, co-analyzed the data, co-edited and co-reviewed the manuscript.

Ethics

This article is unique and contains previously unpublished material. The corresponding author confirms that all other authors have read and approved the work and that there are no ethical issues.

References

Abidin, Z., Handayani, W., Zaky, E. A., & Faturrahman, A. D. (2022). Perceived risk and attitude's mediating role between tourism knowledge and visit intention during the COVID-19 pandemic: implementation for coastal-ecotourism management. *Heliyon*, e10724. https://doi.org/10.1016/j.heliyon.2022.e10724

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179-211. https://doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I. (2005). *Attitudes, Personality and Behavior* (2nd Ed.). Open University Press-McGraw Hill Education. ISBN: 10-9780335224005.

Al Mamun, A., Mohamad, M. R., Yaacob, M. R. Bin, & Mohiuddin, M. (2018). Intention and behavior towards green consumption among low-income households. *Journal of Environmental Management*. https://doi.org/10.1016/j.jenvman.2018.08.061

Ayunisa, F. (2018). Peran Servicescape Dalam Meningkatkan Hotel Image dan Revisiting Intention Pada Hotel Bintang 5. *Jurnal Manajemen dan Pemasaran Jasa*, *9*(2), 269. https://doi.org/10.25105/jmpj.v9i2.1676

BSTC. (2023a). Pantai Bajulmati Malang: Green turtle (*Chelonia mydas*) in bstcmalang. http://bit.ly/48LCEWB

BSTC. (2023b). BSTC Sowan Penyu: Penyu Sisik, Hawksbill turtle (*Eretmochelys imbricata*). https://bit.ly/SISIK

BSTC. (2023c). Olive ridley (*Lepidochelys olivacea*). https://bit.ly/olivaceae

BSTC. (2023d). Giat Patroli BSTC: Starfruit turtle (*Dermochelys coriacea*). https://bit.ly/BELIMBING

DiPietro, R. B., Cao, Y., & Partlow, C. (2013). Green practices in upscale foodservice operations: Customer perceptions and purchase intentions. *International Journal of Contemporary Hospitality Management*, 25(5), 779-796. https://doi.org/10.1108/ijchm-may-2012-0082

Chaudhary, R., & Bisai, S. (2018). Factors influencing green purchase behavior of millennials in India. *Management of Environmental Quality: An International Journal*, 29(5), 798-812. https://doi.org/10.1108/MEQ-02-2018-0023

Chen, M. F., & Tung, P. J. (2014). Developing an extended theory of planned behavior model to predict consumers' intention to visit green hotels. *International Journal of Hospitality Management*, 36, 221-230. https://doi.org/10.1016/j.ijhm.2013.09.006

Choi, D., & Johnson, K. K. (2019). Influences of environmental and hedonic motivations on intention to purchase green products: An extension of the theory of planned behavior. *Sustainable Production and Consumption*, 18, 145-155. https://doi.org/10.1016/j.spc.2019.02.001

Corral, C. M. (2003). Sustainable production and consumption systems-Cooperation for change: Assessing and simulating the willingness of the firm to adopt/develop cleaner technologies: The case of the in-Bond industry in Northern Mexico. *Journal of Cleaner Production*, 11(4), 41-426. https://doi.org/10.1016/S0959-6526 (02)00063-X

Dinas Pariwisata dan Kebudayaan Kabupaten Malang. (2018). *Rancangan Akhir Rencana Strategis Dinas Pariwisata dan Kebudayaan, Kabupaten Malang Tahun 2016-2021*. https://bit.ly/PRrenstradisparbudkmlg16-21

Freire da Silva, P. A. (2014). *Green Chemistry, Green Engineering and Eco-innovation Towards a More Sustainable Petrochemical Industry: Determinants of Brazilian Companies´ Engagement in GCE-Based Eco-Innovation Processes*. 484. http://hdl.handle.net/1765/51542

Ha, H. Y., & Janda, S. (2012). Predicting consumer intentions to purchase energy-efficient products. *Journal of Consumer Marketing*, 29(7), 461-469. https://doi.org/10.1108/07363761211274974

Haines, R., Street, M. D., & Haines, D. (2008). The influence of perceived importance of an ethical issue on moral judgment, moral obligation and moral intent. *Journal of Business Ethics*, 81(2), 387-399. https://doi.org/10.1007/s10551-007-9502-5

Han, H., Hsu, L. T. J., & Sheu, C. (2010). Application of the theory of planned behavior to green hotel choice: Testing the effect of environmental friendly activities. *Tourism Management*, 31(3), 325-334. https://doi.org/10.1016/j.tourman.2009.03.013

Handriana, T., & Ambara, R. (2016). Responsible environmental behavior intention of travelers on ecotourism sites. *Tourism and Hospitality Management*, 22(2), 135-150. https://doi.org/10.20867/thm.22.2.4

Hartmann, P., & Apaolaza-Ibáñez, V. (2012). Consumer attitude and purchase intention toward green energy brands: The roles of psychological benefits and environmental concern. *Journal of Business Research*, 65(9), 1254-1263. https://doi.org/10.1016/j.jbusres.2011.11.001

Hsu, C. L., Chang, C. Y., & Yansritakul, C. (2017). Exploring purchase intention of green skincare products using the theory of planned behavior: Testing the moderating effects of country of origin and price sensitivity. *Journal of Retailing and Consumer Services*, 34, 145-152. https://doi.org/10.1016/j.jretconser.2016.10.006

Iskandar, R. A., & Saragih, R. (2018). The Influence of Attitude Toward the Behavior, Subjective Norms, and Perceived Behavioral Control on Whistle-Blowing Intention and Behavior of CPNS. *J. Tata Kelola Akuntabilitas Keuang. Negara*, 4(1), 63-84.

Kim, Y. J., Njite, D., & Hancer, M. (2013). Anticipated emotion in consumers' intentions to select eco-friendly restaurants: Augmenting the theory of planned behavior. *International Journal of Hospitality Management*, 34, 255-262. https://doi.org/10.1016/j.ijhm.2013.04.004

Klein, F., Emberger-Klein, A., Menrad, K., Möhring, W., & Blesin, J. M. (2019). Influencing factors for the purchase intention of consumers choosing bioplastic products in Germany. *Sustainable Production and Consumption*, 19, 33-43. https://doi.org/10.1016/j.spc.2019.01.004

Kushwah, S., Dhir, A., & Sagar, M. (2019). Ethical consumption intentions and choice behavior towards organic food. Moderation role of buying and environmental concerns. *Journal of Cleaner Production*, 236, 117519. https://doi.org/10.1016/j.jclepro.2019.06.350

Lestari, P., & Trihadiningrum, Y. (2019). The impact of improper solid waste management to plastic pollution in Indonesian coast and marine environment. *Marine Pollution Bulletin*, *149*, 110505. https://doi.org/10.1016/j.marpolbul.2019.110505

Maloney, M. P., & Ward, M. P. (1973). Ecology: Let's hear from the people: An objective scale for the measurement of ecological attitudes and knowledge. *American Psychologist*, *28*(7), 583-586. https://doi.org/10.1037/h0034936

Mangafić, J., Pilav-Velić, A., Martinović, D., & Činjarević, M. (2017). Consumer innovativeness and organic food purchase intentions. In *Green Economy in the Western Balkans: Towards a Sustainable Future* (pp. 285-319). Emerald Publishing Limited. https://doi.org/10.1108/978-1-78714-499-620171010

Paul, J., Modi, A., & Patel, J. (2016). Predicting green product consumption using theory of planned behavior and reasoned action. *Journal of Retailing and Consumer Services*, *29*, 123-134. https://doi.org/10.1016/j.jretconser.2015.11.006

Ramdhani, N., Psikologi, F., & Gadjah, U. (2016). Model Perilaku Penggunaan Tik "Nr2007" Pengembangan Dari Technology Acceptance Model (Tam). *Buletin Psikologi*, *24*(1), 17-27. https://www.scribd.com/document/426328460/Tam

Sarabia-Andreu, F., & Sarabia-Sánchez, F. J. (2018). Do implicit and explicit attitudes explain organic wine purchase intention? An attitudinal segmentation approach. *International Journal of Wine Business Research, 30*(4), 463-480. https://doi.org/10.1108/IJWBR-09-2017-0063

Schniederjans, D. G., & Starkey, C. M. (2014). Intention and willingness to pay for green freight transportation: An empirical examination. *Transportation Research Part D: Transport and Environment*, *31*, 116-125. https://doi.org/10.1016/j.trd.2014.05.024

Setyadi, I. A., Hartoyo, Maulana, A., & Muntasib, E. K. H. (2012). Strategi Pengembangan Ekowisata Di Taman Nasional Sebangau Kalimantan Tengah. *Jurnal Manajemen & Agribisnis*, *9*(1), 1-12. https://doi.org/10.17358/jma.9.1.1-12

Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The Theory of Reasoned Action: A Meta-Analysis of Past Research with Recommendations for Modifications and Future Research. *Journal of Consumer Research*, *15*(3), 325. https://doi.org/10.1086/209170

Solimun, F., Nurjannah, R., Ahmad, A., & Nurjannah. (2017). *Metode Stastika Multivariat: Permodelan Persamaan Structural (SEM) Pendekatan WarpPLS*. UB Press. ISBN: 10-6024322372.

Sreen, N., Purbey, S., & Sadarangani, P. (2018). Impact of culture, behavior and gender on green purchase intention. *Journal of Retailing and Consumer Services*, *41*, 177-189. https://doi.org/10.1016/j.jretconser.2017.12.002

Sun, Y., & Wang, S. (2019). Understanding consumers' intentions to purchase green products in the social media marketing context. *Asia Pacific Journal of Marketing and Logistics*, *32*(4), 860-878. https://doi.org/10.1108/APJML-03-2019-0178

Yadav, R., & Pathak, G. S. (2016). Young consumers' intention towards buying green products in a developing nation: Extending the theory of planned behavior. *Journal of Cleaner Production*. *135*, 732-739. https://doi.org/10.1016/j.jclepro.2016.06.120

Yadav, R., & Pathak, G. S. (2017). Determinants of Consumers' Green Purchase Behavior in a Developing Nation: Applying and Extending the Theory of Planned Behavior. *Ecological Economics*. https://doi.org/10.1016/j.ecolecon.2016.12.019