

Environmental Sustainability: An Exploration of Thai Passengers' Green Behaviors Applying Value-Attitude-Behavior Theory

Sudarath Tolanuwat^{a*}

Article Info
Received 11 April 2024
Revised 11 July 2024
Accepted 12 August 2024
Available online 31 August 2024

^{a*} Lecturer of Aviation Industry Management Program,
Aviation Personnel Development Institute, Kasem Bundit University,
Thailand, E-mail: sudarath.tol@kbu.ac.th

Abstract

This study aims to illustrate the influence of biosphere value on ecological attitude and also biosphere value on Thai passengers' green behavior. The ecological attitude is also tested as a mediator between biosphere value and Thai passengers' green behavior, which findings found limited in a Thai context. From the mentioned objectives of the study, the value-attitude-behavior (V-A-B) theory was employing to determine that ecological attitude plays a role as the mediator between biosphere value and Thai passengers' green behavior. Using a quantitative method, data was collected from 225 participants via a structured questionnaire with purposive selection technique to international passengers at Suvarnabhumi Airport, and the Partial Least Square Structural Equation Model (PLS-SEM) was subsequently analyzed by using SmartPLS4 software to test the hypotheses. The findings reveal that biosphere value directly impacts both ecological attitude and Thai passengers' green behavior when traveling by air whereas the attitude acts as a partial mediator between value and behavior.

Keywords: Environmental Sustainability, Biosphere Value, Ecological Attitude, Green Behaviors

Introduction

The average global temperature for 2023 was measured to be 1.2°C above the average of the pre-industrial period with forecast that it will be one of the Earth's hottest years on record (Madge, 2022). Scientists have been admitted climate change is one of the most serious issues for humanity and that the concentration of GHGs has been rising steadily as a result of human activities, primarily the burning of fossil fuels and changes in land use which leads to increase global temperatures (UN, n.d.). The Global Carbon Project reported that Global carbon dioxide emissions from fossil fuels have increased by 1.0% in 2022 with a new record high of 36.6bn tonnes of CO₂ (GtCO₂). It also stated that the increase in fossil emissions in 2022 has been primarily driven by a strong increase in fuel emissions as global travel continues to recover from the Covid-19 pandemic (Hausfather, 2022).

To help reduce the carbon emission from air transportation, The ICAO sets a Basket of Measures to Mitigate Climate Change policy which leads to reduce fuel consumption in aviation. The policy consists of 1) Aircraft Technology and Standard 2) Air Traffic Management and Operation 3) Sustainable Aviation Fuels and 4) Carbon Offsetting and

Reduction Scheme for International Aviation (CORSIA) (ICAO, 2019). Gössling & Dolnicar (2023) found that the achievement of carbon mitigation involves not only the ICAO but many different parties such as aircraft manufacturers, airlines, airports which provide products and services; the government and its green policies; last but not least, the individual's green behavior. Upon the concept that everyone on earth should participate in greenhouse gas reduction, individuals can diminish CO₂ emission on the earth's climate by the lifestyle choices they make and by their support of emissions-reducing policies (Bernard et al., 2022).

Although the air transport section plays a critical role in CO₂ emissions and other environmental damages, it seems to be only limited researches in Thailand on passengers' traveling green behavior. To fill with the gap, this research then aims to illustrate the voluntary mitigation action from Thai passengers in flying green. There are several studies indicated that ecological attitude turns into ecological behavior. Moser (2015) suggested that consumers care for the environment reflect the environmental attitudes in their green purchasing behavior. Ecological attitude also contributes direct and immediate impact on pro-environmental behaviors as previously found by Paswan et al. (2017) and Jakucionyte-Skodiene et al. (2022). However, Wyss et al. (2022) stated that ecological attitudes are more predictive of ecological behavior when personal costs are low or environmental benefits are high.

In several environmental studies, values have been tested and shown to have a strong impact on environmental attitudes which, in turn, strongly influenced behaviors (Kim et al., 2020). Walsh et al (2021) investigated business travelers' attitudes and their sustainable travel behavior found that values influence (although at different levels) the sustainable attitudes and behavior. According to Homer & Kahle (1988), in the value-attitude-behavior theory "the influence should theoretically flow from abstract values to midrange attitudes to specific behaviors". To investigate Thai passengers' green behavior when traveling by air in this study, the V-A-B theory, based on the notion that the influence of values on specific behavior is mediated by attitudes toward the behavior, will be applied.

Objectives/Research Questions: Thai passengers' green behavior by air in this research is hypothesized to be influenced by eco-system value which has ecological attitude as a mediator. The study consequently aims to explore both the impact of biosphere value upon ecological attitude and the impact of biosphere value upon Thai passengers' green behavior. Additionally, the ecological attitude as a mediator will also be tested.

Three research questions were put forth:

- 1) Does biosphere value directly influence Thai passengers' green behavior?
- 2) Does biosphere value directly influence ecological attitude?
- 3) Does ecological attitude play a mediating role between biosphere value and Thai passengers' green behavior?

Literature Review

Biosphere Value:

According to Cambridge Dictionary, value is "the beliefs people have, especially about what is right and wrong and what is most important in life, that control their behavior." Weber (1905/1958), defined that value not only playing an important role in sociology, psychology and anthropology but also being used to explain the individuals' motivational bases of attitudes and behavior. When thinking of values, individuals think of what are important to their lives for everyone has hold numerous values with various degrees of importance (Schwartz, 2012). According to Bouman et al. (2018), there are four values concerning individual beliefs and behaviors: biosphere value, altruistic value, egoistic value and hedonic value. Among those

values, biospheric is considered to be individuals' concern for environment, hence this paper will target on such value.

The biosphere value particularly applied to predict Individuals' green behaviors and reflect the importance of how people care about nature and the environment. Biosphere value promotes benefits for the environment and the more individuals embrace biosphere value, the more they tend to perform pro-environmentally action (Jans et al., 2018 & Bouman et al., 2018). Van der Werff and Steg, 2016 found in their study that Individuals' biosphere values shown directly strong impact on ecological attitudes, intentions and behavior. A study of green purchase behavior in Hong Kong revealed that value strongly influenced their attitude towards environmental issues which in turn effected positively on behavior (Cheung, 2019). Based on the above findings, this study then would like to investigate such determinant in Thai context. Hence, the following hypotheses were formulated.

H1: Biosphere value directly influences Thai passengers' green behavior.

H2: Biosphere value directly impacts on ecological attitude.

Ecological Attitude

In psychology, an attitude refers to individuals' feelings towards someone or something which can be favorable or unfavorable, like or dislike which turn into an influence over behaviors. Attitudes are defined as a learned tendency to evaluate people, things, issues, objects positively or negatively, however, the evaluations can also be uncertain at times (Cherry, 2018). Ecological attitude is an individual's tendency to be aware and care for the natural environment which is positively related to daily pro-environmental behaviors, according to Hawcroft & Milfont (2010). Bleidorn et al. (2021), ecological attitude impacts consumers' environmental friendly behaviors over time and across individuals with different demographic and psychological backgrounds. In an investigation of green purchasing, there is a positive and significant relationship between green attitude and green purchasing behavior (Amoako et al., 2020).

Supporting the VAB model, Milfont et al. (2010) revealed their finding in the cross-cultural study in Brazil, New Zealand and South Africa that environment friendly attitude played as a fully mediator between value and ecological behavior. A study of Shin et al. (2017) stated that biosphere value influences willingness to pay more for an organic menu (green behavior) via ecological attitude. One of the results from the food waste research is revealed that the sustainable value has a strong effect on waste reduction behavior whereas attitude played as mediator which turned into descending order when eating out at restaurants (Kim, 2020). Hence, the following hypothesis was formulated.

H3: Ecological attitude plays as a mediator between the relationship of biosphere value and Thai passengers' green behavior.

The value-attitude-behavior theory has been involved in various environmental studies to predict the green behavior. Kim et al. (2021), studied sustainability crowd funding initiative, revealed that value has substantial impacts on attitude and that attitude are found to have positive impacts on participation. Han et al. (2019) indicated that value and attitude are essential in illustrating individuals' eco-friendly behavior when studying the eco-cruise purchasing intention. According to Homer and Kahle (1988) value-attitude-behavior hierarchy model, value influence behavior via attitudes which means that attitude plays a mediating role on value and behavior. The frame work below has been put forth in Fig. 1:

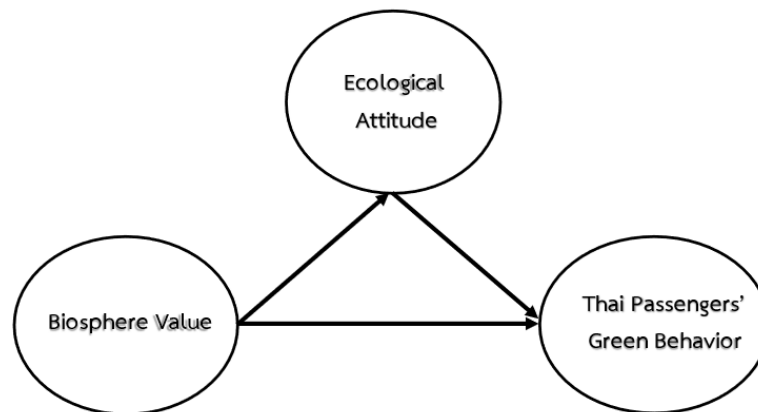


Figure no. 1: Research Framework

Research Methodology

Participants and procedure

The target sampling for this study were Thai passengers who have experienced flying commercial airlines, specifically on an international flight. Following the recommendation of Hair et al. (2011), minimum sample size estimation method in PLS-SEM is the “10-times rule” method which builds on the assumption that the sample size applied on an empirical study should be greater than 10 times. According to 18-item measurement, then data will be collected at least 180 respondents, however, by using purposive sampling technique, there were 225 participants joined the face to face interview via questionnaire at Suvarnabhumi Airport.

The questionnaire was developed based on a review of the literature. It was validated using Index of Item – Objective Congruence (IOC) technique by three professors in the field before being trialed with 30 samples. The Cronbach’s Alpha Coefficient obtained from the data for this set of questionnaires is 0.748. All items were measured using a 5-point Likert scale ranging from “1 - strongly disagree” to “5 - strongly agree”.

Measurement

Biosphere Value is measured by 6 items developed by Shin, Y. H., Moon, H., Jung, S. E., & Severt, K. (2017):

1. I believe it is important to harmonize with other species and nature.
2. I prefer to fit into nature rather than control nature.
3. I like to protect the environment.
4. I anticipate preserving nature.
5. I believe in protecting natural resources.
6. I consider the balance of nature is delicate and easily upset.

Ecological Attitude is measured by 5 items Shin, Y. H., Moon, H., Jung, S. E., & Severt, K. (2017):

1. It is important to me that the products I use don't harm the environment.
2. I consider the potential environmental impact of my actions when making many of my consumption decisions.
3. I am concerned about wasting the resources of our planet.
4. I would describe myself as environmentally responsible.

5. I am willing to be inconvenienced in order to take environmentally sustainable actions.

Thai passengers' green behavior is measured by 7 items used in the research of Praneetham (2018):

1. I pack my baggage with light weight stuff to reduce aircraft fuel consumption.
2. I choose to fly with the airlines which invest in new engines and high technology aircraft to help reducing carbon dioxide emissions and noise pollution.
3. I choose to fly with airlines which use bio fuel to mitigate co2 emission.
4. I am pleased to donate or pay more money to offset carbon I made when flying.
5. I avoid charging my cell phone or any devices' batteries to save aircraft energy.
6. I reuse the plastic glass when on board to save our earth.
7. I avoid using the airlines' blanket to reduce the laundry affecting the environment.

PLS- SEM Analysis

The research was tested by employing the Partial Least Squares Structural Equation Model (PLS-SEM). The developed conceptual model was drawn in SmartPLS4 software, which calculated and assessed various parameters. These included item loading, reliability, and validity tests using a measurement model evaluation; whereas the structural model assessment evaluated the influence of independent variables upon dependent variables and also examined the mediator.

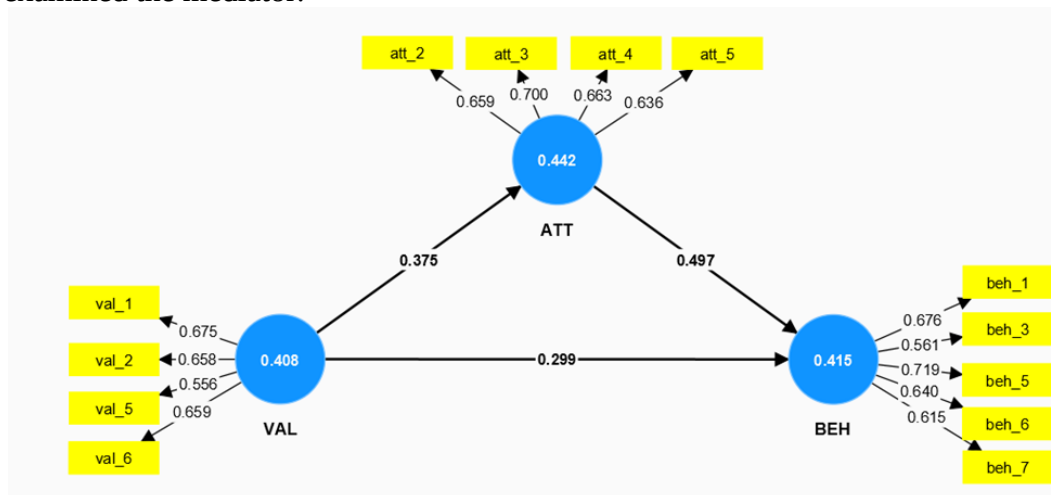


Figure no. 2: Structural Model using Consistent Pls Algorithm

Measurement Model Evaluation

In the PLS approach, there is an outer model evaluation for reliability measurement, whereas an inner model evaluation is incorporated to measure validity. Table no. 1 shows the outer loading values from 0.262 - 0.677, which are acceptable at 0.5 while those with less than 0.5 should be deleted (Chin, 1998; Hair et al., 2011). However, Henseler et al. (2009) explained that the value of outer loading between 0.4 and 0.7 should be considered before withdrawal. In this study, the cut-off value is taken for outer loading at 0.5 or greater. The composite reliability (CR) of each construct in the measurement is accepted for confirmatory purposes at a value higher than 0.7 (Hair et al., 2011) All indicators in this study are displayed in table no.1 while

those with value of AVE less than 0.5 according to the specific construct of Hari et al., 2011 will be deleted as shown in table 1.

Table 1: Construct Reliability and Validity

Latent Variables	Indicator Variable	Cronbach's Alpha	Outer Loading	Composite Reliability	AVE
Biosphere Value (VAL)	val_1	0.750	0.622	0.705	0.507
	val_2		0.638		
	val_3*		0.485		
	val_4*		0.262		
	val_5		0.549		
	val_6		0.620		
Ecological Attitude (ATT)	att_1*	0.780	0.498	0.749	0.574
	att_2		0.611		
	att_3		0.657		
	att_4		0.649		
	att_5		0.578		
Passengers' green behavior (BEH)	beh_1	0.787	0.629	0.788	0.550
	beh_2*		0.485		
	beh_3		0.583		
	beh_4*		0.441		
	beh_5		0.677		
	beh_6		0.633		
	beh_7		0.582		

Note: *deleted items (outer loading < 0.5)

The $\sqrt{\text{AVE}}$ values represent the discriminant validity (Fornell-Larcker, 1981). Table 2 shows that each latent variable does not interrelate, since the value of each construct is higher than the others as shown in table no. 2.

Table 2: Discriminant Validity (Fornell – Larcker Criterion)

Variable	ATT	BEH	VAL
ATT	0.665		
BEH	0.609	0.644	
VAL	0.375	0.485	0.639

Note: ATT = Ecological Attitude, BEH = Passengers' Green Behavior, VAL = Biosphere Value

Structural Model Assessment

The structural model assessment is the testing of Multicollinearity which can mislead the findings due to the correlated between or among the variables. According to Hair et al. (2011) independent variables in the model are not correlated with one another, showing no multicollinearity when the VIF value is no greater than 5.00 as shown in table no. 3.

Table n3: VIF testing result (independent variables)

Variables	VIF
val_1	1.126
val_2	1.167
val_5	1.266
val_6	1.248
att_1	1.069
att_2	1.192
att_3	1.215
att_4	1.193
att_5	1.128

Note: VAL = Biosphere Value, ATT = Ecological Attitude

The assessment includes coefficient determinant (R^2), path coefficient (β), t-statistics and significance level respectively. The R^2 value at 0.240 for ATT means that The biosphere value can predict ecological attitude for 24.00 %. The R^2 value at 0.448 for BEH means that the biosphere value and ecological attitudes can predict Thai passengers' green behavior for 44.80 %, which is displayed in table no. 4.

Table 4: coefficient determinant (R^2)

Dependent Variables	R^2	R^2 Adjusted
ATT	0.240	0.236
BEH	0.448	0.442

Note: ATT = Ecological Attitude, BEH = Passengers' Green Behavior

Research Finding

Hypothesis Testing

The path coefficient (β) demonstrates the strength of an effect from independent variables to dependent variables. The value of the path coefficient must be higher than 0.10 with a significant level less than 0.05 and t - statistics should be higher than the critical value at 1.960. With the PLS-SEM approach, the algorithm and bootstrapping process calculate standard errors, constructs confidence intervals, and performs hypothesis testing. All of the mentioned values are shown in table 5.

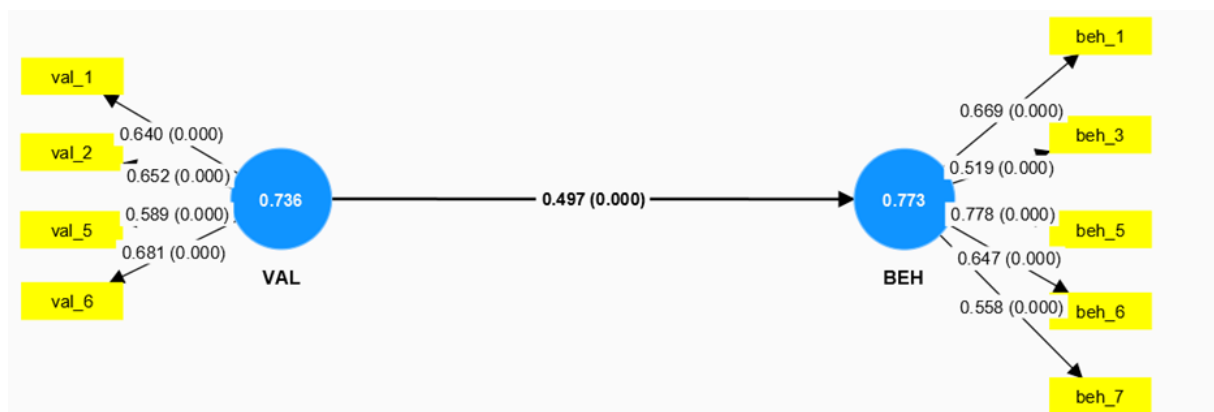
Table 5: Path coefficient, t-statistics, and P-value

Hypothesis	Impact of independent upon dependent variable	β	T value	P value	Hypothesis
H1	VAL----->BEH	0.299	5.763	0.000	Accepted
H2	VAL----->ATT	0.375	4.764	0.000	Accepted

Note: VAL = Biosphere Value, ATT = Ecological Attitude, BEH = Passengers' Green Behavior

The inner model shows that VAL has the strongest impact on ATT (0.375), followed by BEH (0.299). The hypothesis path between VAL and BEH is significant with P-value at 0.000, whereas the hypothesis path between VAL and ATT is significant with P-value at 0.000 as well. In conclusion, VAL are significant statistical predictors for both BEH and ATT.

According to the research framework, ATT takes a role as a mediator between VAL and BEH, Wong (2015) explains that for mediation analysis, the 2 - step procedures has been implemented by the bootstrapping approach: (a) the significance of direct effect is investigated without the mediator (ATT) in the model (Figure no. 3); (b) the significance of indirect effect is examined with the mediator (ATT) in the model (Figure no. 4.) This 2 - step procedure has been carried out twice as to test the third hypothesis (H3).

**Figure 3:** 1st step approach without mediator (VAL to BEH)

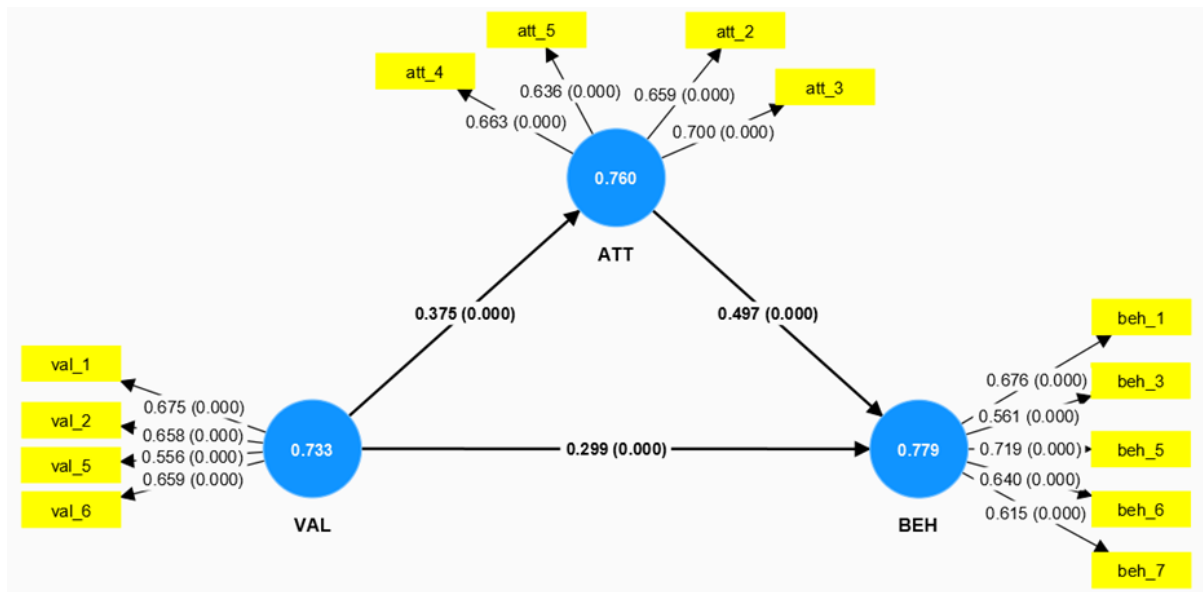


Figure 4: 2nd step approach with mediator (ATT as mediator between VAL to BEH)

Table 6: Mediation Analysis

H	Procedure	Path	β	Indirect effect	Stdev.	Total effect	VAF	T value	P value	Hypothesis
H3	Step1:									Accepted
	Direct effect w/o mediator	VAL---->BEH	0.497	n/a				7.938	0.000	
	Step2:	VAL---->BEH	0.299	n/a		0.375	0.496	8.071	0.000	
	Indirect effect w. mediator	VAL---->ATT	0.375							
	ATT---->BEH	0.497	0.186	0.038						

Note: VAL = Biosphere Value
ATT = Ecological Attitude
BEH = Passengers' Green Behavior

Hair et al. (2011) recommended that the specific variable will be a partial mediator when VAF value exceeds 0.20 while it will be fully mediator when VAF value is greater than 0.80. According to table 6 above, the effect of VAL on BEH via ATT has the VAF value at 0.496 which implies that ATT performs partial mediator to VAL on BEH (H3).

Discussion/Conclusion

This current study explores the direct impacts of biosphere value upon ecological attitude Thai passengers' green behavior when traveling by air, and also to investigate the relationship when the ecological attitude acts as a role of mediator. The biosphere value has the strongest impact ($\beta = 0.375$) on ecological attitude, which is in accordance with the research using VAB theory that value on active transport has a positive effect on attitude toward walking and biking (Kim et. al, 2022). The biosphere value directly effects ($\beta = 0.299$) upon Thai passengers' green behavior which is in line with Amalia et al. (2021) demonstrated that both biosphere value and environmental attitude significantly impacted on the green purchase intention leading to behavior. Besides, Govaerts et al. (2023), studied the Norwegian consumers' behavior revealed that Biospheric values directly influenced attitude whereas attitude significantly affected the consumption of seaweed food products.

Furthermore, the ecological attitude performs a vital role as a partial mediator (VAF=0.496) in the relationship between biosphere value and Thai passengers' green behavior. This is in agreement with the study of Lee et al. (2019) applying VAB theory reveal that hedonic values influence the Purchase Intention which turned to be one's behavior through hedonic attitudes. According to Anuar et al. (2021), the green value and attitude had a significant influence on sustainable transportation engagement. In addition, attitude played a mediating role in the relationship between green value and sustainable transportation engagement. Furthermore, from the study of first year students' sustainable consumption Bosnia and Herzegovina using value-attitude-behavior theory, it demonstrated that the relationship between personal values and sustainable consumption practices is mediated only by pro-environmental attitudes (Činjurević et. al, 2022)

This research examined the impact between biosphere value upon ecological attitude and Thai passengers' behavior when traveling by air. The findings from this study will be of advantages to airlines and administration concerned with their environmental sustainability schemes hereafter. Airlines should encourage their passengers to travel with less emission by promoting the biosphere value and ecological attitude, for it significantly impacts on Thai passengers' green behavior. Airlines and organizations concerned should enhance Thai passengers' willingness to behave environmentally by deploying incentives plan. As the ecological attitude also conducts a partial mediator between biosphere value and Thai passengers' behavior environmental concern, governmental policy-making to build up the green attitude among Thai people should be implemented correspondingly.

Suggestions

Research Limitation

There are some limitations in this research.

1. The purposive selection technique took place at only Suvarnabhumi airport which may limit the respondents to those who are most likely to travel on international routes.
2. As a result of all research questionnaire used in this study are close-ended, we cannot get the information in-depth from the informants.

Future Research

Possibilities for future research can be:

1. Besides the VAB Model, other researches can apply other theories or models to assess passengers' green behavior when traveling by air.
2. Mixed methods should be incorporated for gathering more in-depth data.

References

- Amalia, F. A., Sosianika, A., & Christabel, F. A. (2021). Green purchase intention of Indonesian young consumers: extending VAB framework. *Journal of Marketing Innovation (JMI)*, 1(1).
- Amoako, G. K., Dzogbenuku, R. K., & Abubakari, A. (2020). Do green knowledge and attitude influence the youth's green purchasing? Theory of planned behavior. *International Journal of Productivity and Performance Management*, 69(8), 1609-1626.
- Anuar, M., Razali, N., & Ngah, A. (2021). Green value and sustainable transportation engagement: The mediating role of attitude. *Management Science Letters*, 11(2), 547-554.
- Bleidorn, W., Lenhausen, M. R., & Hopwood, C. J. (2021). Proenvironmental attitudes predict proenvironmental consumer behaviors over time. *Journal of Environmental Psychology*, 76, 101627.
- Bernard, R., Tzamourani, P. & Weber, M. (2022). Climate Change and Individual Behavior. The Becker Friedman Institute. Retrieved from <https://bfi.uchicago.edu/insight/finding/climate-change-and-individual-behavior/>
- Bouman, T., Steg, L., & Kiers, H. A. (2018). Measuring values in environmental research: a test of an environmental portrait value questionnaire. *Frontiers in psychology*, 9, 564.
- Cherry, K. (2018). Attitudes and behavior in psychology. Verywell mind.
- Cheung, M. F., & To, W. M. (2019). An extended model of value-attitude-behavior to explain Chinese consumers' green purchase behavior. *Journal of Retailing and Consumer Services*, 50, 145-153.
- Chin WW. The partial least squares approach to structural equation modeling. In: Marcoulides GA, editor. *Modern Methods for Business Research*. Mahwah, NJ, USA: Erlbaum; 1998. pp. 295–336. [Google Scholar]
- Činjurević, M., Kapo, A., & Turulja, L. (2022, June). Predicting sustainable consumption practices by value-attitude-behavior theory. In *International Conference on Sustainable Development* (pp. 163-178). Cham: Springer International Publishing.
- Fornell, C. & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable and Measurement Error. *Journal of Marketing Research*. (161-188)
- Gössling, S., & Dolnicar, S. (2023). A review of air travel behavior and climate change. *Wiley Interdisciplinary Reviews: Climate Change*, 14(1), e802.
- Govaerts, F., & Olsen, S. O. (2023). Consumers' values, attitudes and behaviours towards consuming seaweed food products: The effects of perceived naturalness, uniqueness, and behavioural control. *Food Research International*, 165, 112417.
- Hair, J.F., Ringle, C.M. & Sarstedt, M. (2011). PLS-SEM: Indeed a Silver Bullet. *Journal of Marketing Theory and Practice*, vol. 19, no. 2 (139–151). Retrieved from <https://doi.org/10.2753/MTP1069-6679190202>

- Han, H., Hwang, J., Lee, M. J., & Kim, J. (2019). Word-of-mouth, buying, and sacrifice intentions for eco-cruises: Exploring the function of norm activation and value attitude-behavior. *Tourism Management*, 70, 430-443.
- Hausfather, Z. (2022). Analysis: Global CO2 emissions from fossil fuels hit record high in 2022. Retrieved from <https://www.carbonbrief.org/analysis-global-co2-emissions-from-fossil-fuels-hit-record-high-in-2022/> (Online: 13 April 2023)
- Hawcroft, L. J., & Milfont, T. L. (2010). The use (and abuse) of the new environmental paradigm scale over the last 30 years: A meta-analysis. *Journal of Environmental Psychology*, 30(2), 143-158.
- Henseler J., Ringle C.M. and Sinkovics R.R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing*. 2009;20:277-319.[Google Scholar] [Ref list].
- Homer, P. M., & Kahle, L. R. (1988). A structural equation test of the value-attitude-behavior hierarchy. *Journal of Personality and Social Psychology*, 54(4), 638-646.
- ICAO (2019). Introduction to the ICAO Basket of Measures to Mitigate Climate Change. Retrieved from https://www.icao.int/environmental-protection/Documents/EnvironmentalReports/2019/ENVReport2019_pg111-115.pdf
- Jakucionyte-Skodiene, M., Dagiliute, R. and Liobikiene, G. (2020). Do general pro environmental behaviour, attitude, and knowledge contribute to energy savings and climate change mitigation in the residential sector?", *Energy*, Vol. 193 No. 2020, pp. 116-784.
- Jans, L., Bouman, T., and Fielding, K. (2018). A part of the energy "in crowd": changing people's energy behavior via group-based approaches. *IEEE Power Energy Magazine* 16, 35-41.
- Kim, M. J., & Hall, C. M. (2021). Do value-attitude-behavior and personality affect sustainability crowdfunding initiatives?. *Journal of Environmental Management*, 280, 111827.
- Kim, M. J., Hall, C. M., & Kim, D. K. (2020). Predicting environmentally friendly eating out behavior by value-attitude-behavior theory: does being vegetarian reduce food waste? *Journal of Sustainable Tourism*, 28(6), 797-815.
- Kim, M. J., & Hall, C. M. (2022). Is walking or riding your bike when a tourist different? Applying VAB theory to better understand active transport behavior. *Journal of environmental management*, 311, 114868.
- Lee, H. H., Liang, C. H., Liao, S. Y., & Chen, H. S. (2019). Analyzing the intention of consumer purchasing behaviors in relation to internet memes using VAB model. *Sustainability*, 11(20), 5549.
- Madge, G. (2022). 2023 set to be tenth consecutive year at 1°C or above. Met Office Press. Retrieved from <https://www.metoffice.gov.uk/about-us/press-office/news/weather-and-climate/2022/2023-global-temperature-forecast>
- Milfont, T. L., Duckitt, J., & Wagner, C. (2010). A cross-cultural test of the value-attitude behavior hierarchy. *Journal of Applied Social Psychology*, 40(11), 2791-2813.
- Moser, A. K. (2015). Thinking green, buying green? Drivers of pro-environmental purchasing behavior. *Journal of consumer marketing*.
- Paswan, A., Guzman, F. and Lewin, J. (2017). Attitudinal determinants of environmentally sustainable behavior. *Journal of Consumer Marketing*, Vol. 34 No. 5, pp. 414-426.
- Praneetham, C. (2018). Awareness and Air Travel Behavior of Thai Passengers for Global Warming Alleviation in the Airline Industry. *Chophayom Journal*, 29(2), 275-288.

- Schwartz, S. H. (2012). An overview of the Schwartz theory of basic values. Online readings in Psychology and Culture, 2(1), 2307-0919.
- Shin, Y. H., Moon, H., Jung, S. E., & Severt, K. (2017). The effect of environmental values and attitudes on consumer willingness to pay more for organic menus: A value attitudebehavior approach. *Journal of Hospitality and Tourism Management*, 33, 113-121.
- Walsh, P. R., Dodds, R., Priskin, J., Day, J., & Belozerova, O. (2021). The corporate responsibility paradox: A multi-national investigation of business traveller attitudes and their sustainable travel behaviour. *Sustainability*, 13(8), 4343.
- Weber, M. (1905/1958). The Protestant ethic and the spirit of capitalism. New York: Scribner's.
- Wyss, A. M., Knoch, D., & Berger, S. (2022). When and how pro-environmental attitudes turn into behavior: The role of costs, benefits, and self-control. *Journal of environmental psychology*, 79, 101748.