



The impact of social network on tourist attitude towards ecotourism: a case of Vietnam

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Abstract

As a result of the increase in global climate change and the development of social networks, the study of ecotourism and the impact of social networks has been getting greater attention. Nonetheless, research examining the impact of social networks on ecotourism has been limited. This study investigates the relationship between ease of use, perceived usefulness, word-of-mouth (WOM), perceived trust, and tourist attitude towards ecotourism, and examines the moderating role of perceived risk on these relationships in the context of Vietnam. The regression analysis was conducted with data from answers of 231 respondents. The results show that perceived trust has the largest impact on tourist attitude towards ecotourism, which is followed by perceived usefulness. WOM communication has the least impact. The study also highlights the role of perceived risk in moderating the relationship between social networks and tourist attitudes.

Keywords: Tourist attitude, Social network, Ecotourism, Vietnam

1. Introduction

Ecotourism is defined as “a result of climate change and a growth in environmental concern, ecotourism, a form of nature-based tourism. It has attracted increasing interest from both academics and practitioners in the tourism sector” (Pham and Nguyen, 2020). In other words,

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ecotourism is the type of tourism that is based on natural resources such as wildlife, scenic areas, caves, and other naturally undisturbed areas (Bjork, 2000). Nevertheless, tourism has been changed by information technology and tourist behaviors (Xiang *et al.*, 2015). Hence, ecotourism providers and marketers are concerned about these changes.

The development of technology and the growing interest in social networks force the tourism industry to look back on the way of marketing its services (Navío-Marco *et al.*, 2018). The internet has become an intermediary means between tourists and tourism providers (Buhalis and Law, 2008). Social networks offer tourism a tool for delivering information about destination images. Therefore, social networks become the key selection in eco-destination by interactivity, good quality visualization, instant messaging, and searching tools (Kwon and Wen, 2010). There are a few pieces of research on the impact of social networks on tourism in general. For example, Pantano (2011) finds that travelers tend to use graphically designed websites and tools in choosing destinations. Kasavana *et al.* (2010) find that Italian travelers prefer to use social networks in choosing tourism services. Nonetheless, despite the importance of social networks on ecotourism development, there is little attention on studying the use of social networks on ecotourism and tourist behavior towards ecotourism.

Tourism in Vietnam has been accelerated since 1986 with the country's reform policy named "Doi Moi" (Nguyen and Le, 2020). It was estimated that the growth of the Vietnamese tourism industry has been the highest among Southeast Asian countries since the emergence of the Covid-19 (Lee, 2021). Moreover, there is great potential for developing ecotourism together with the increase in using social networks among Vietnamese youngsters. Therefore, Vietnam provides a unique context for investigating the impact of social networks on developing ecotourism. Understanding how social networks affect tourist attitudes towards ecotourism is important for ecotourism development.

The purpose of this paper is, thus, to investigate the effects of social networks on ecotourism in the context of Vietnam. The analysis framework of this study is adopted from the technology acceptance model (TAM) to examine the impact of social networks on tourist attitudes towards ecotourism. The multivariate analysis was conducted with data from answers of 231 respondents.

In particular, the findings focus especially on the role of ease of use and eWOM communication on tourist attitude. Further, this study also highlights the negative moderating influence of perceived risk in reducing the positive impact of social networks on tourist attitudes. Last but not least, this study offers meaningful implications for practice. Marketing strategies on social network is necessary for developing destination image and ecotourism brand. Ecotourism providers should pay attention to reducing risks on the social network to create the users' trust and improve the networks' usefulness.

The remaining of this paper is structured as follows. Section 2 presents the literature review about the TAM and the influence of the factors of social networks on tourist attitude. Section

3 shows the analysis of the research results. Section 4 concludes the paper with a discussion and conclusion.

2. Literature review

2.1 Social network and the model of TAM

The advances in web-based technologies and the increasing interest in social network systems prompt the tourism industry to reconsider the way of planning and consuming tourism products and services. As a consequence, there is a wide potential for marketers to utilize the internet for tourism purposes. The internet plays a new role as an intermediary. It surpasses the traditional role of tour operators and travel agencies and provides tourists with a possibility to buy tourism products and services by themselves (Buhalis and Law, 2008). Social media technologies provide tools for both producing and distributing information. These technologies support collaborative writing such as Wikis, content sharing including text, video, and images, social networks such as Facebook, Twitter, social bookmarking such as ratings and tagging, and syndication (Dawson, 2007). Furthermore, these technologies increase websites' potential by combining interactive functions.

Social networks offer new powerful applicable tools for the promotion of local resources from a global perspective. These instruments can be exploited in ecotourism contexts in a fast and innovative way. By providing services for the tourism market, social networks are becoming an efficient tool for IT-based businesses. In fact, through social networks, the way people plan for, buy and consume tourist products and services dramatically changes and so does the role of tourism intermediaries (Buhalis and Law, 2008). Tourists can post their thoughts and opinions about holidays and past experiences by making them available to the global community of internet users (Dellarocas, 2003). As a result, this study aims to model the use of social networks, which serve as a powerful tool in choosing tourism destinations, by extending the use of the TAM model.

Currently, the TAM model is largely used in predicting users' intention to accept new technologies in several sectors such as information technology with an emphasis on participation in online communities (Wu *et al.*, 2011, Chung *et al.*, 2010), learning (Bourgonjon *et al.*, 2010), shopping (Doong *et al.*, 2011), and tourism and hospitality. The TAM model is based on the Theory of Reasoned Action (Fishbein and Ajzen, 1975) to investigate computer usage behavior, by focusing on the constructs of perceived ease of use and perceived usefulness, and on the subsequent acceptance of technology in terms of attitude towards the technology, intention to use and effective use (Al-Somali *et al.*, 2009). The TAM model suggests that ease of use describes the characteristics of sites, i.e. social networks, because easy-to-use technologies may be more useful (Schillewaert *et al.*, 2005). The TAM model has strong implications for technology application from a theoretical and conceptual point of view (Gangwar *et al.*, 2013). Therefore, factors including ease of use, perceived usefulness, WOM, perceived trust, and risk in the TAM model will explain how social networks affect tourist

attitude. In this research, the TAM model is employed to explain the impact of social networks on tourist attitudes towards ecotourism.

2.2 Tourist attitude towards ecotourism

“Attitude” is referred to as a tendency to respond to a phenomenon positively or negatively consistently over time (Fishbein and Ajzen, 1975). It is also considered a kind of evaluative response towards a particular object (Lippa, 1990). From another perspective, Agarwal and Prasad (1998) define attitude as a person’s emotional response to the use of new technology. In line with these studies, this study defines ecotourism attitude or environmental attitude as a personal psychological tendency towards visiting an ecological site in the spirit of appreciation, participation, and sensitivity. It can be seen that people who are concerned about the environment also show more belief and interest in the environment. Cheng *et al.* (2013) confirm that tourists have become more environmentally conscious after visiting eco-tourism sites, and continued to show the effects of cognitive health benefits and the ecological value between nature and people. Dunlap and Van Liere (1978) propose the NEP scale to measure tourist attitude towards ecotourism while other scholars investigate attitudes by exploring multiple attitudinal measures (Lee and Moscardo, 2005; Weiler and Smith, 2009). Therefore, as the NEP is the scale for measuring tourist attitudes in terms of ecotourism, this study employs this scale to measure the attitude construct.

2.3 Hypotheses

Perceived ease of use is defined as the degree to which a user believes a particular technology will be easy to use (Davis, 1989). Davis (1989) observes that when a particular system is easier to operate, the user is more likely to adopt and use it. Consideration of perceived usefulness has been widely recognized in the tourism industry context. Many studies show that ease of use has a strong impact on the customers’ intentions to buy (Davis, 1989; Chen *et al.*, 2011).

Perceived usefulness is defined as the potential users’ subjective probability that using a particular application system increases their productivity in an organizational context (Davis, 1989). This definition indicates that a particular technology is useful because technology reduces the time to perform a job and increases efficiency and accuracy. Davis (1989) shows that perceived usefulness has a strong effect on the intention to use. Pavlou (2003) also proposes that perceived usefulness influences the users’ behavioral intentions for purchasing online. When it comes to ecotourism, with the development of the internet and the unpredictable Covid-19 impact, the ease of use and the usefulness of social networks certainly become more important for visitors to search for information in traveling ecotourism rather than other types of tourism.

Since the importance of social networks represents the users’ interaction, the study employs the TAM model to examine the impact of ease of use and perceived usefulness on tourist attitudes towards ecotourism. Therefore, the following hypotheses are proposed:

H1: Ease of use of social networks has a positive impact on tourist attitude towards ecotourism.

H2: Perceived usefulness of social networks has a positive impact on tourist attitude towards ecotourism.

According to Arndt (1967), WOM is the first form of social interaction. WOM is considered “the dissemination of information through communicating among people” (Chen *et al.*, 2011). Chevalier and Mayzlin (2006), and Tran and Tieu (2020) suggest that there is an influence of WOM on consumer valuation of the services. Similarly, travelers tend to engage in tourism by examining the destination image on the internet rather than doing other high-involvement information-seeking activities (Chu, 2001; Thuan *et al.*, 2018). As “the intangible characteristics of tourism service, tourists cannot be evaluated before the consumption experience, therefore the online suggestions reduce the risk” (Di Pietro *et al.*, 2012). When it comes to ecotourism, it can be suggested that WOM pushes to create a positive attitude of visitors for engaging in ecotourism. Therefore, this study proposes that WOM communication has a link with tourists’ attitudes towards ecotourism. Hence, a hypothesis is stated as follows:

H3: E-word-of-mouth communication has a positive impact on tourist attitude towards ecotourism.

According to Plank and Newell (2007), perceived trust is considered the buyer’s belief in the products or the company’s image. Meanwhile, information posted on social networks gives customers certain choices and thoughts, which are based on perceived beliefs about the source of information and the quality of the advertised service. The higher the customer’s trust in using the social networks, the greater the ability to make decisions based on that information source. Trust is defined as the optimistic expectation of the outcome of an event, human behavior, the consumer perception of the integrity and trustworthiness of advertising (Bamoriya and Singh, 2012). Trust can be related to consumers’ expectations that advertisers and companies should use consumers’ personal information for the right purposes and avoid misusing it. Consumers will not feel comfortable scrolling through posts or advertising information if they are not looking for it. This makes consumers hesitant to provide personal information and causes them to purchase from websites they know and trust (Yaakop *et al.*, 2013). Trust has a direct and positive impact on advertising attitudes, brand attitudes, and buying intentions. In this vein, visitors with perceived trust will have a positive attitude towards traveling ecotourism than other types of tourism. Therefore, the following hypothesis is proposed:

H4: Perceived trust has a positive impact on tourist attitudes towards ecotourism.

Yan and Dai (2009) find that the decision to buy online is influenced by two groups of factors: perceived usefulness and perceived risk. Consumers’ perception of products’ usefulness has a positive impact on online shopping decisions. Meanwhile, the consumers’ perception of risk negatively impacts a customer’s online shopping decision (Mitchell, 1999). As a result, under the impact of perceived risk, customers will carefully study the information on social networks.

According to Fan and Miao (2012), online word-of-mouth (eWOM) has a positive influence on purchase intention, which is similar to the process of customers referencing travel information. Consumers consult others for their opinions and comments before they make a purchasing decision. Likewise, consumers will engage in a virtual community for help by submitting questions. Internet users often depend on other users' experiences in evaluating each photo uploaded to social media sites. Online reviews, which are written by users, do not only have the potential to increase or decrease tourist arrivals but also influence a visitor's intention to choose a destination (De Bruyn and Lilien, 2008). Therefore, the following hypotheses are advanced:

H5a: Perceived risk negatively moderates the relationship between ease of use and tourist attitude.

H5b: Perceived risk negatively moderates the relationship between perceived usefulness and tourist attitude.

H5c: Perceived risk negatively moderates the relationship between e-word-of-mouth communication and tourist attitude.

H5d: Perceived risk negatively moderates the relationship between perceived trust and tourist attitude.

Based on the theoretical background, the variables of the research model are ease of use, perceived usefulness, eWOM communication, perceived trust, perceived risk, and tourist attitude. Figure 1 summarizes the relationships among the identified variables.

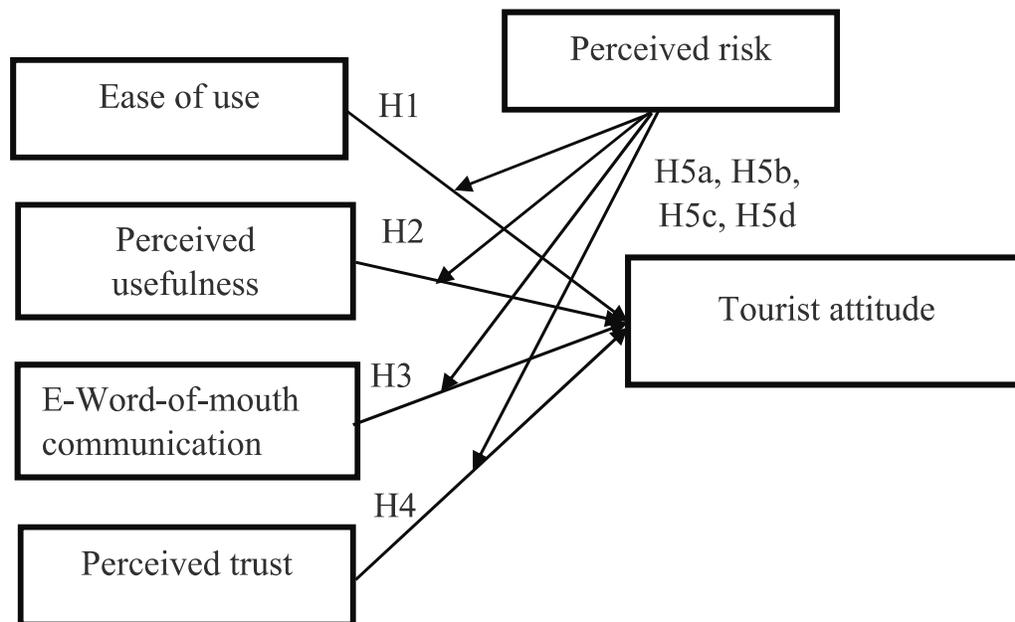


Figure 1. The proposed conceptual framework

Source: Compiled by the authors

3. Methodology

3.1 Measurement scale

Measurements for our variables including ease of use, perceived usefulness, eWOM communication, perceived trust, perceived risk, and tourist attitude were developed and validated by the extant empirical literature. As presented in Table 1, perceived usefulness has five items adopted from Wu *et al.* (2011). Ease of use has five items from Wu *et al.* (2011), and Al-Somali *et al.* (2009). WOM includes five items employed by Jeong and Jang (2011). Perceived trust is measured by four items from the work of Kasavana *et al.* (2010). Perceived risk includes five items, which are adopted from Bauer (1960). Tourist attitude is measured by four items adopted from Wu *et al.* (2011), and Nguyen and Le (2020). A five-point Likert scale, taking a value from 1 (strongly disagree) to 5 (strongly agree), is used to quantify all items in this study.

Table 1. Items measurement

Construct	Item code	Item description	Source
Ease of use (PE)	PE1	It is easy to access ecotourism websites	Wu <i>et al.</i> (2011), Al-Somali <i>et al.</i> (2009)
	PE2	Payments can be made easily	
	PE3	It is easy to find what I want on ecotourism service on the social network	
	PE4	My interaction with ecotourism service on the social network would be clear and understandable	
	PE5	Social networks help me in choosing an eco-destination	
Perceived usefulness (PU)	PE5	Social networks help me in choosing an eco-destination	Wu <i>et al.</i> (2011)
	PU1	Using social network gives me greater control over my travel journey	
	PU2	Information about tourist destinations on social networks is rich and easy to access	
	PU3	Using social network makes it easier to get information to travel	
	PU4	Using social network supports critical aspects of my journey	
	PU5	Travel companies promoting their services on social networks provide enthusiastic and complete advice	

Table 1. Items measurement (*continued*)

Construct	Item code	Item description	Source
Word-of-mouth communication	WOM1	I often share travel information with people on Facebook, Instagram, Zalo, the social network I use	Jeong and Jang (2011)
	WOM2	I often talk about the advantages of choosing a travel destination through a social network with people	
	WOM3	I often discuss the positive points when booking tours via social network on forums, Facebook groups, Zalo	
	WOM4	I often refer to the articles of people who have traveled to tourist destinations on social networks and groups before choosing an eco-destination.	
	WOM5	I often refer to the quality, price, and service of the tours through social network	
Perceived trust	PT1	I think ecotourism provider on the internet always keep their promises and commitments	Kasavana <i>et al.</i> (2010)
	PT2	I think travel information posted on social media is trustworthy	
	PT3	Social travel agencies provide reliable information to me	
	PT4	The image of eco-destinations advertised on the social network is trustworthy	
Perceived risk	PR1	I think the travel information on social media is not reliable	Bauer (1960)
	PR2	I feel confused when the travel information on social networks is too rampant and inaccurate	
	PR3	Personal information when booking a tour via social network is not confidential	
	PR4	The deposit/payment for tours on social networks has many risks	
	PR5	I think the pictures of eco-destinations on the social network are not compared with the actual images	
Tourist attitude towards ecotourism	TT1	I feel comfortable traveling to ecotourism sites	Wu <i>et al.</i> (2011), Nguyen and Le (2020)
	TT2	I feel happy when traveling to ecotourism sites	
	TT3	I find it interesting to travel to ecotourism sites	
	TT4	I like to travel to ecotourism sites	

Source: Calculated by the authors

Each measurement item has been validated by the analysis of Cronbach's Alpha with the SPSS 22.0 software. The value of each variable was above 0.7 (Cronbach and Shavelson, 2004). Thus, the proposed model is reliable (Table 2).

Table 2. Value of Cronbach's Alpha

Factors	Items	Cronbach's Alpha value
Perceived ease of use	5	0.801
Perceived usefulness	5	0.860
Word-of-mouth communication	5	0.783
Perceived trust	4	0.795
Perceived risk	5	0.820
Tourist attitude towards ecotourism	4	0.811

Source: Calculated by the authors

3.2 Sample

The sample consists of Vietnamese tourists who have used social network and have traveled to ecological destinations. Convenience sampling method was employed to collect the research sample (Cochran, 1977).

The large scale survey was launched from September to December 2019 at two popular ecotourism destinations in the North of Vietnam. We randomly approached tourists in two ecotourism sites, which are namely Thien Son Suoi Nga and Khoang Xanh, and invited them to participate in our survey. Data were collected through face-to-face interviews with people who accepted our invitation. We approached 400 people and obtained 231 responses, yielding a response rate of 57.5%.

The ratio of male and female respondents are 51.1% and 48.8%, respectively. The largest group has an average age of less than 25, which is followed by a group with an average age from 25 to 35. Only 15,2% of respondents have age over 35. Most respondents hold a university degree while the percentage of respondents with a secondary school education and postgraduate degree is 21.3% and 4.0%, respectively.

3.3 Data analysis method

To empirically examine the proposed hypotheses, we used multivariate analysis literature. Firstly, the Cronbach's Alpha coefficient was employed to measure the reliability of each construct. Secondly, the multivariate regression analysis was conducted to test the influence of ease of use, perceived usefulness, eWOM communication, and perceived trust on tourist attitude. Thirdly, the interaction effect was used to test the moderating role of perceived risk.

4. Results

4.1 Reliability and hypothesis testing

The Cronbach's Alpha of each construct is higher than the required cut off of 0.7, which indicates that all the measurement scales are internally consistent. As can be seen from Table 3, the Cronbach's Alpha value of each construct with ease of use at 0.825, perceived usefulness at 0.876, perceived trust at 0.898, perceived risk at 0.895, and tourist attitude at 0.833 is also satisfactory as it is above 0.70 (Nunnally and Bernstein, 1994), which indicate construct reliability.

Table 3. Cronbach's Alpha analysis

Variables	Corrected item - Total Correlation coefficient	Cronbach's Alpha if item deleted	Cronbach's Alpha value
<i>PE</i>			
PE 1	0.679	0.859	0.825
PE 2	0.791	0.831	
PE 3	0.738	0.843	
PE 4	0.706	0.851	
PE5	0.659	0780	
<i>PU</i>			
PU1	0.352	0.784	0.876
PU 2	0.633	0.620	
PU 3	0.663	0.607	
PU 4	0.511	0.691	
PU5	0.660	0.860	
<i>WOM</i>			
WOM1	0.584	0.737	0.898
WOM 2	0.627	0.716	
WOM 3	0.564	0.748	
WOM 4	0.595	0.732	
WOM5	0.832	0.860	
<i>PT</i>			
PT1	0.630	0.751	0.815
PT2	0.602	0.764	
PT3	0.636	0.748	
PT4	0.630	0.751	
<i>PR</i>			
PR1	0.673	0.831	0.895
PR2	0.656	0.835	
PR3	0.665	0.833	
PR4	0.706	0.822	
PR5	0.678	0.829	
<i>TT</i>			
TT1	0.652	0.779	0.833
TT2	0.745	0.735	
TT3	0.639	0.781	
TT4	0.570	0.811	

Source: Calculated by the authors

After testing the Cronbach's Alpha coefficient and measuring the reliability of the scale, the Exploratory Factor Analysis (EFA) is conducted with the 16 observed items from five

independent variables. The EFA evaluates two important values of the scale, which are the convergence value and the discriminant value. The results from Table 4 show that the KMO and Bartlett's test has high value of 0.910 at the significance value of 0.000. Thus, having the KMO value of more than 0.5 indicates that the application of the Exploratory Factor Analysis method in the scale is appropriate.

Table 4. KMO and Bartlett's test of the second analysis

Kaiser-Meyer-Olkin Measure of sampling adequacy		0.910
Bartlett's test of sphericity	Approx. Chi-square	3235.721
	Df	161
	Sig.	0.000

Source: Calculated by the authors

Table 5. The second run of Rotated Component Matrix

NO	Variables	Components				
		1	2	3	4	5
1	PU1	0.612				
2	PU2	0.734				
3	PU3	0.751				
4	PU4	0.727				
5	PU5	0.787				
6	WOM1		0.809			
7	WOM2		0.793			
8	WOM3		0.650			
9	WOM4		0.537			
10	WOM5		0.554			
11	PE1			0.690		
12	PE2			0.755		
13	PE3			0.675		
14	PE4			0.772		
15	PE5			0.795		
16	EX1				0.790	
17	EX 2				0.823	
18	EX 3				0.715	
19	EX 4				0.576	
20	PR1					0.811
21	PR2					0.791
22	PR3					0.786
23	PR4					0.771
24	PR5					0.770

Source: Calculated by the authors

Table 5 presents a rotating matrix that eliminates unimportant loading factors and shows the convergence factors. It means that all the attributes of each factor are loaded in the corresponding component. And the five components can explain about 65% of the variance of all the variables from the total variance explained.

Under the result of the Pearson analysis presented in Table 6, the statistical significance of correlation among variables, which are TT and PU, TT and PE, TT and WOM, TT and PT, TT and PR, is at 1%. It is shown that PU, PE, WOM, PT, PR have a positive relationship with TT.

Table 6. Pearson correlation analysis

		TT	PU	WOM	PT	PE	PR
TT	Pearson Correlation	1	0.418**	0.429**	0.305**	0.176**	-0.114
	Sig. (2-tailed)		0.000	0.000	0.000	0.006	0.077
	N	240	240	240	240	240	240
PU	Pearson Correlation	0.418**	1	0.366**	0.199**	0.072	0.040
	Sig. (2-tailed)	0.000		0.000	0.002	0.265	0.535
	N	240	240	240	240	240	240
WOM	Pearson Correlation	0.429**	0.366**	1.000	0.246**	0.183**	0.091
	Sig. (2-tailed)	0.000	0.000		0.000	0.004	0.161
	N	240	240	240	240	240	240
PT	Pearson Correlation	0.305**	0.199**	0.246**	1.000	0.218**	-0.089
	Sig. (2-tailed)	0.000	0.002	0.000		0.001	0.169
	N	240	240	240	240	240	240
PE	Pearson Correlation	0.176**	0.072	0.183**	0.218**	1.000	-0.266**
	Sig. (2-tailed)	0.006	0.265	0.004	0.001		0.000
	N	240	240	240	240	240	240
PR	Pearson Correlation	-0.114	0.040	0.091	-0.089	-0.266**	1.000
	Sig. (2-tailed)	0.077	0.535	0.161	0.169	0.000	
	N	240	240	240	240	240	240

***: Correlation is significant at sig. 1% (2-tailed).*

Source: Calculated by the authors

Regression analysis is the next important step to identify how the independent variables, which are ease of use, perceived usefulness, eWOM communication, and perceived trust, affect the dependent variable tourist attitude. After analyzing the Pearson correlation, four independent variables including PU, PE, WOM, and PT are detected to be correlating with the dependent variable (TT).

Table 7. Regression analysis result

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	0.072	0.213		0.335	0.738		
PU	0.341	0.052	0.331	6.408	0.000	0.534	1.770
PE	0.148	0.060	0.124	2.425	0.015	0.554	1.701
WOM	0.143	0.057	0.117	2.472	0.013	0.641	1.458
PT	0.354	0.054	0.321	6.440	0.000	0.574	1.640

Source: Calculated by the authors

As can be seen from Table 7, all VIF values are less than 5. Therefore, there is no multicollinearity problem. Further, four independent variables have statically significant impact on tourist attitude because all regression coefficients are below 0.05 in Table 7. In other words, ease of use, perceived usefulness, eWOM communication, and perceived trust have a positive effect on tourist attitude towards ecotourism. Hence, the standardized regression equation is demonstrated below:

$$TT = 0.331*PU + 0.124*PE + 0.117*WOM + 0.321*PT + \varepsilon$$

Note: PU-ease of use, PE-perceived usefulness, WOM- e worth of mouth communication, PT- perceived trust

From the regression equation, it can be concluded that ease of use has the largest impact on tourist attitude towards ecotourism with the standardized Beta of 0.331, which is followed by perceived trust (0.321) and perceived usefulness (0.124). The WOM communication with the standardized Beta of 0.117 has the least impact on tourist attitude towards ecotourism. From the results, Hypotheses H1, H2, H3, and H4 are supported.

4.2 The moderating effect of perceived risk

The interaction effect is employed to analyze the moderating role of perceived risk. If significant value of the interaction variable is below 0.05, it means that the variable plays a moderating role.

Together with verifying the above mentioned significance of interaction effects, measuring the change of R-square value between original main effects, which are in Models 1 and 2 in Table 8, and the moderating effect, which is in Model 3 in Table 8, is an additional method for testing the hierarchical regression analysis. The results from Table 8 show that the Rsquare values increase from the main effect models, which are presented in Model 1 and Model 2 with values of 0.292 and 0.299, respectively, to the moderating effect in Model 3 with the value of 0.321. Therefore, perceived risk has a moderating role.

Table 8. The model analysis of moderating effect

Model	R	R ²	R ² adjusted	S.E	Change statistics					Durbin- Watson
					R ² Change	F Change	df1	df2	Sig. F Change	
1	0.541 ^a	0.292	0.283	0.59133	0.292	32.500	3	236	0.000	
2	0.558 ^b	0.311	0.299	0.58472	0.019	6.372	1	235	0.012	
3	0.584 ^c	0.341	0.321	0.57551	0.030	3.526	3	232	0.016	1.525

Source: Calculated by the authors

Table 9 shows that the coefficients of the interaction term between perceived risk and eWOM communication is significant and negative, indicating the significance of the interaction effect of these factors on tourist attitude. However, the coefficients of other interaction terms, which include ease of use and tourist attitude, perceived trust and tourist attitude, perceived usefulness of tourist attitude, are not significant. Hence, Hypothesis H5c is accepted while Hypotheses H5a, H5b, and H5d are not supported. The final model is given in Figure 2.

Table 9. The regression analysis of moderating effect

Model	Unstandardize		Standardize	T-Student	Sig.	Collinearity	
	B	Std. Error	Beta			Tolerance	VIF
1	1.444	0.247		5.835	0.000		
PE	0.271	0.059	0.283	4.510	0.000	0.867	1.154
PU	0.261	0.056	0.278	4.694	0.000	0.853	1.172
WOM	0.202	0.043	0.283	4.723	0.000	0.835	1.198
PT	0.159	0.050	0.179	3.153	0.002	0.926	1.080
2	1.717	0.267		6.418	0.000		
PE	0.278	0.061	0.293	4.609	0.000	0.867	1.152
PU	0.264	0.055	0.281	4.801	0.000	0.853	1.172
WOM	0.214	0.043	0.299	5.011	0.000	0.826	1.211
PT	0.144	0.050	0.163	2.871	0.004	0.913	1.095
PR	-0.095	0.037	-0.138	-2.524	0.012	0.978	1.022
3	1.796	0.268		6.698	0.000		
PE	0.277	0.060	0.291	4.588	0.000	0.855	1.169
PU	0.262	0.055	0.280	4.760	0.000	0.823	1.215
WOM	0.225	0.042	0.315	5.324	0.000	0.813	1.230
PT	0.133	0.050	0.150	2.678	0.008	0.904	1.106
PR	-0.124	0.038	-0.181	3.255	0.001	0.918	1.089
PRxPE	-0.029	0.047	-0.017	0.978	0.971	0.607	1.354

Source: Calculated by the authors

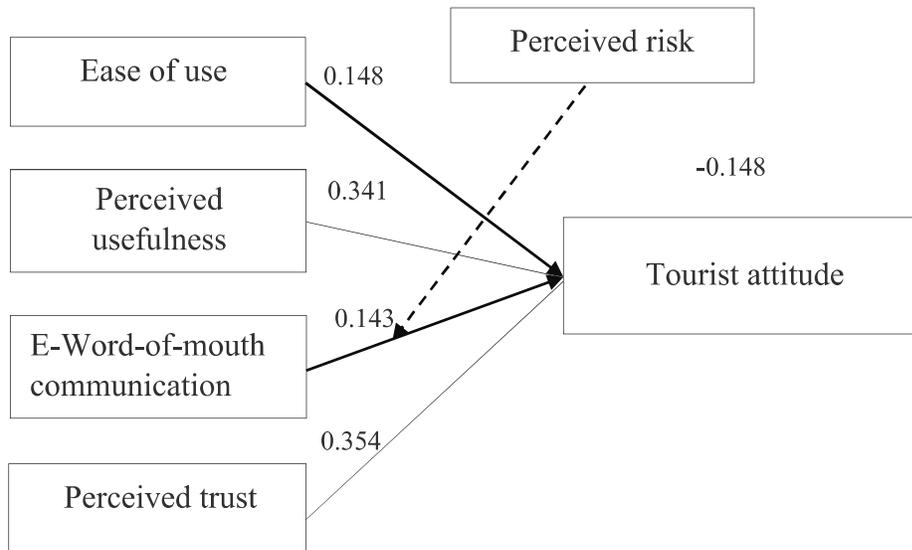


Figure 2. The final model

Source: Proposed by the authors

5. Discussion

The findings from this study show that there is a positive relationship between social network and tourist attitude. In addition, perceived usefulness and perceived ease of use have a significant effect on tourist attitude towards ecotourism. These results are in line with the works of Kim *et al.* (2010), and Kwon and Wen (2010), which consider social networks the key to share content among users. Similarly, Di Pietro *et al.* (2012) confirm the link between a social network and tourist attitude towards tourism. Thus, the use of social networks has some impact on tourist attitudes when they engage in ecotourism.

This study also reveals positive influence of perceived trust on tourist attitudes. This finding implies that social network provides a new source of entertainment and interactive tools, which may attract tourists to engage in ecotourism. This result is in line with the study of Kim *et al.* (2010), Kim and Han (2011), and Liao and Tsou (2009). The results show that WOM communication on social networks has a positive effect on tourist attitudes towards ecotourism. This finding is similar to the research on general tourism (Cheung *et al.*, 2011, Di Pietro *et al.*, 2012).

The results of the hierarchical regression analysis indicate that perceived risk has a negative moderating effect on the relationship between eWOM and tourist attitude, which is in line with the research results of Chen *et al.* (2013) and Di Pietro *et al.* (2011). Chen *et al.* (2013) argue that eWOM is an effective communication channel for ecotourism providers if they solve problems resulted from the social network. Further, Karamustafa and Erbas (2011) show that perceived risk has strong negative impact on tourist decision.

Hence, social network creates a new place, which provides tourist information from other tourists' experiences and helps them to plan for their journey to ecological destinations by comparing the choice with other users' suggestion.

6. Conclusion

This study provides some important theoretical contributions. In particular, the current study makes an important theoretical contribution to the understanding concerning the use of social network for tourism destinations and marketing purposes, by modeling the main influencing variables for tourists and how users are influenced. The findings focus especially on the role of ease of use and eWOM communication on tourist attitude. As a consequence, these results might be considered one of the emerging attempts to investigate empirically tourist acceptance of computer-mediated communication in social networks as informative sources. Further, this study highlights the negative moderating influence of perceived risk in reducing the positive impact of social networks on tourist attitudes.

This study also makes contribution with practical implications. It is suggested that ecotourism providers should have marketing strategies on social networks. For example, they develop the image of the destination, monitor their tourism services, and develop a brand in their virtual channel on Youtube, Facebook, or Pinterest. They also can allocate their marketing strategy and financial resources to different social networks to get the highest effectiveness. Besides, ecotourism providers should offer tourists incentives or discount for encouraging them to post reviews, videos, and photos. Another managerial implication of these findings is that ecotourism providers should share updated and complete information on eco-destination and become more involved in interactive communication with tourists that are interested in obtaining additional information about ecological sites. The trust in the image and information of eco-destination might increase its attractiveness and confer it an outstanding competitive advantage. Ecotourism providers should pay attention to reducing risks on the social network to create the users' trust and improve the networks' usefulness.

Although this study helps to fill a gap in the literature, limitations remain. A limitation emerges from the data analysis method. In this study, interactive items are examined to test the moderating effect of perceived risk through multivariate regression analysis. Future research should consider other estimation method. Moreover, this study has limitation by the adopted data collection method. The study is based on a cross-sectional dataset that limits the work with respect to causal inference. In addition, our research is limited to the context of Vietnamese travellers. The findings may not be generalisable for other travellers from other emerging economies. We, therefore, encourage additional studies using data collected in countries other than Vietnam.

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