

Examining the Impact of User-Generated Content on Environmentally Responsible Travel Behaviour

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DOI: <https://doi.org/10.47772/IJRISS.2026.101800011>

Received: 06 March 2026; Accepted: 16 March 2026; Published: 20 April 2026

ABSTRACT

In this digital era, the process of searching and sharing information, including travel experiences, among internet users has improved. Through the advancement of new technology, social media, along with its interactive features, has become a valuable platform for internet users to communicate and start an engagement. One of the special characteristics of social media is user-generated content (UGC). Through this transformation, users can freely upload their own content and share it with others via numerous social media platforms, including Facebook, Instagram, TikTok, and YouTube. In the case of sustainability behaviour, research about the influence of UGC on travellers' responsible environmental behaviour is relatively new, insufficient, and requires further attention. Thus, to fulfil the gaps, this study aims to examine the influence of UGC on travellers' environmental concerns, environmental attitudes, and responsible environmental behaviour. Based on a cross-sectional design and a self-administered survey, this study collected 259 responses from local tourists in the Klang Valley, Malaysia. The main target sample consists of individuals who are actively involved in nature-based activities. For analysis purposes, this study employs the Partial Least Squares-Structural Equation Modelling (PLS-SEM). The research findings reveal that UGC is a significant external driver for travellers' environmental concern and environmental attitudes. Moreover, both environmental concern and environmental attitudes were found to significantly contribute to the development of travellers' responsible environmental behaviour. In conclusion, the research findings emphasize that essential for tourism authorities, including the Destination Management Organisations (DMOs), to integrate social media and leverage UGC in promoting sustainable practices among travellers.

Keywords: User-generated content, environmental concern, environmental attitude, responsible behaviour

INTRODUCTION

A prior study indicates that the main challenge faced by sustainable tourism nowadays is irresponsible behaviour at cultural and natural destinations, among both citizens and tourists (Sultan et al., 2021). Due to this concern, the tourism authority, including Destination Management Organizations (DMOs), needs to understand the motivation factors that can encourage responsible behaviour among tourists. Responsible behaviour towards the environment can be described based on individuals' actions to support sustainability practices such as recycling, replanting, avoiding single-use plastic, supporting local businesses, raising awareness, and educating others to practice sustainability on various social media platforms. Basically, travellers' concern and awareness of environmental issues can significantly increase if the strategic efforts among the stakeholders, including the authority, tourism operators, associations, DMOs, and environmental management, can be synergized and implemented consistently. For example, the application of new technologies to monitor visitors' behaviour at tourism destinations, employment of digital media for effective marketing and promotion of sustainability, enforcement of rules and regulations, encouragement of social influences, increasing the public campaigns, and many others. Usually, if tourists have a strong sense of sustainability, they are more likely to adopt responsible behaviour and prefer eco-friendly destinations for their vacations (Mohamad et al., 2025).

In recent years, literature indicates that studies on responsible behaviour towards the environment have become important among scholars in various fields, including tourism areas. Besides, several terms are also frequently

used interchangeably, such as sustainable behaviour, eco-friendly, pro-environmental behaviour, green tourism, green holiday, and green behaviour (Khan, 2024; Nowacki et al., 2023; Prayag et al., 2025; Sadiq et al., 2022). However, discussion and analysis of tourists' environmental attitudes and environmentally responsible behaviours remain limited and require more extensive study from various perspectives (Nowacki et al., 2023). In the digital era, social media has performed as a powerful communication tool in promoting sustainable tourism behaviours. Due to its interactive features and ability to reach a wide audience, social media has shifted the conventional communication word-of-mouth (WOM) to electronic word-of-mouth (eWOM) (Gulati, 2021; Horng et al., 2024). eWOM is associated with tourists' experience-sharing activities, whether positive or negative, with others via online platforms (Mohamad et al., 2022; Pourfakhimi et al., 2019). Broadly, eWOM refers to interpersonal and non-commercial communication between consumers or internet users regarding their experiences with a service, brand, destination, or organization (Alam et al., 2024). As tourism is intangible in nature, eWOM is usually known as a common strategy for influencing tourists' attitudes and behaviours (Kumar et al., 2025).

Previous literature has discussed the concepts and influence of eWOM and user-generated content (UGC) interchangeably (Maha & Redouane, 2024). Basically, both eWOM and UGC involve activities such as sharing information, viewpoints, and perspectives through digital platforms (Mahat & Hanafiah, 2020; Mohamad & Zailani, 2024). The content of eWOM uploaded by earlier and current tourists includes information and experience, whether positive or negative (Mohamad et al., 2025). This information often relates to products, services, or organizations and is widely accessible on internet platforms. On the other hand, UGC refers to content published online, including creative material such as written or visual media. Notably, UGC must be created by internet users who are not acting in any professional position (Maha & Redouane, 2024). UGC on social media can influence travellers' responsible tourism practices, as peers' recommendations and experiences can be more convincing than information provided by tourism operators (Mohamad et al., 2022). The information gathered through UGC can easily shape their perceptions and behaviours toward tourism destinations, services, and attractions (Maha & Redouane, 2024). Due to its influence, it is important to examine how UGC can encourage communication about environmental issues and thus enhance tourists' attitudes and responsible behaviour towards the environment. Therefore, through a quantitative approach, this study aims to examine the influence of UGC on environmental concern and attitude, and how these, in turn, encourage environmentally responsible behaviour among local tourists who are actively involved in nature activities.

LITERATURE REVIEW

Responsible environmental behaviour

Responsible tourism is one of the tourism segments that has emerged from the sustainability tourism concept. Based on the main pillars of sustainability, the main purpose of responsible tourism is to encourage responsible behaviour towards nature and the culture of local communities while engaging in tourism activities (Gonda and Rátz, 2023). The main concept of responsible environmental behaviour is to conserve the environment at the tourism destination. For a tourism destination that involves local communities, a responsible behaviour mode can include respecting the local culture, supporting the local business, and reducing the negative impacts due to various tourism activities (Schönherr & Pikkemaat, 2024). Basically, the development of responsible environmental behaviour is a complex process and requires commitment from all parties, including the authorities, operators, tourists, and the community. Remarkably, the most challenging is to educate and create awareness among individual tourists as well as tourism operators to practice responsible behaviour, whether toward the environment, the local economy, or the local culture. Nevertheless, it is worth noting that by practicing responsible environmental behaviour, it can be beneficial not only to local communities and the destination involved, but also to the nation. In the long run, responsible environmental behaviour can provide valuable experiences to tourists and a better livelihood for the residents.

Common responsible environmental behaviours include recycling, choosing eco-friendly transportation and accommodation, avoiding wastage, and energy conservation. The literature indicates that the main issues related to responsible environmental behaviour are that many tourism operators today do not fully consider the principles of sustainability in their operations (Aytekin et al., 2023; Mihalic, 2016; Mohd Rasdi et al., 2022). For example, the application of green concepts in hotel operations and waste management in the food and

beverages industry. Several factors contribute to these issues, including a lack of knowledge and awareness, a lack of in-house expertise, low interest in sustainability, low enforcement, and many others (Hussain et al., 2024). Empirical studies consistently emphasize that responsible environmental behaviour is influenced by environmental attitude and environmental concern, with the main factor driving it being UGC on social media (Jie & Xueli, 2024; Kaur et al., 2022; Sultan et al., 2021). Moreover, a previous study also suggests considering the role of social influence in developing environmental behaviour. Studies that compare age and generation indicate that Generation Z shows more interest in sustainable practices and environmental preservation than other generations (Nowacki et al., 2023; Schönherr & Pikkemaat, 2024).

In summary, it is vital to include the authorities, particularly in planning and managing sustainable tourism activities. For example, in the development of standard operations and procedures at a nature-based attraction, the rules should be followed by all parties, including tourists and citizens. Notably, educating people through the enforcement of rules and regulations will lead to a better future, particularly in the context of sustainable and responsible tourism practices. Previous study also suggests that nature tourists will protect the natural values of the tourism destination, with the main purpose being to minimize the negative impact on nature during their trip (Gonda & Rätz, 2023). Hence, they will show a good attitude toward the host and nature, too. Based on the literature, it is necessary to emphasize the important factors that can be predictors of responsible behaviour, as the concept is broad and diverse (Nowacki et al., 2023). Moreover, different cultural backgrounds and generations demonstrate the different levels of perceptions and acceptance towards responsible environmental behaviour (Nowacki et al., 2023; Schönherr & Pikkemaat, 2024). Therefore, tourism operators, marketers, and authorities are expected to develop relevant policies and marketing strategies that promote environmentally responsible behaviour. By identifying the key predictors, stakeholders can implement strategic techniques that support sustainability and foster long-term, environmentally responsible practices.

Social media

In this digital era, social media serves as a significant platform for users to share opinions, information, experiences, and recommendations (Aboalghanam et al., 2025; Sultan et al., 2021; Xiang & Gretzel, 2010). It is common for travellers to express their perceptions and experiences regarding tourism services, attractions, accommodations, and destinations through various social media platforms. Through this sharing, whether through text, photos, or video format, potential tourists can easily access both positive and negative information about destinations and attractions, which ultimately will influence their decision (Wibisono & Lale, 2024). A prior study has defined social media as ‘a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content’ (Kaplan & Haenlein, 2010). This ideological has shift internet users’ communication from passive information consumption to active user participation. It can be said that communication through social media platforms can empower users to create, share, and exchange user-generated content, facilitating interactive communication, social networking, and collaborative knowledge creation in digital environments. Due to its revolution, the definition and function of social media have also changed and expanded over time.

A study by Cohen (2019) had defined social media based on its nature and characteristics. First, social media incorporates a variety of formats such as photos, videos, text, and audio. Second, social media users are allowed to have cross-interactions between different platforms through activities such as messaging, sharing, and commenting. Third, social media provides different levels of communication, such as one-to-one, one-to-many, and many-to-many. Fourth, social media able extend user meetings by creating real-time online events, expanding online interactions to offline interactions, and supplementing live events online. Based on that, this study defines social media as a group of Internet-based applications that are developed based on the ideology and technology that allow users to interact, communicate, share ideas, content, experiences, perspectives, and information with other Internet users (Kaplan & Haenlein, 2010; Xiang & Gretzel, 2010).

User-generated content (UGC)

User-Generated Content (UGC) refers to a type of multimedia content, including videos, images, reviews, hashtags, opinions, ratings, and comments that are voluntarily posted by the public or internet users (Sigala, 2024). While social media user-generated content refers to informal and unstructured content created and shared

by internet users across various social media platforms, such as Facebook, X, Instagram, and TikTok, for a wide range of purposes (Aboalghanam et al., 2025; Musto & Dahanayake, 2022). Many people nowadays rely more on these platforms to gather or share information and interact with other internet users about various issues, businesses, events, products, services, attractions, and more. This is due to the nature and characteristics of these platforms, which are specifically designed to connect people and facilitate information sharing.

UGC plays a significant role in the tourism industry due to several factors. First, tourism provides a hedonic experience, which refers to enjoyment, excitement, pleasure, or fun. Usually, before making a final decision to visit a destination or attraction, tourists prefer to review experiences from previous tourists. The main purpose is to minimize mistakes in decision-making while meeting their hedonic experiences (Nawawi et al., 2024; Ukpabi & Karjaluoto, 2018). Next, as tourism is a service sector, it is intangible in nature. Hence, the level of dependence on social media content posted by previous tourists is very high (Croy et al., 2019). Lastly, normally, information shared by fellow travellers on social media is perceived as more honest and trustworthy than information shared by marketers (Filieri et al., 2015; Mohamad et al., 2022). Therefore, UGC has been accepted as a powerful tool in two situations. First, it helps tourists to decide on their destination choice (Yan et al., 2024). Second, UGC is a useful tool for marketers to monitor and track visitors' perceptions, feelings, interests, and experiences toward a destination or services (Musto & Dahanayake, 2022; Wijaya et al., 2024). Furthermore, UGC also plays a significant role in shaping destination image, visit intentions, and revisit intentions (Azhar et al., 2022; Nawawi et al., 2024; Sinh & Thai, 2024).

User-generated content and environmental attitude

User-Generated Content (UGC) on social media platforms has become a valuable and effective tool for raising concern and knowledge about responsible behaviour toward the environment. Besides environmental responsibility, sustainable behaviour in tourism also includes aspects such as accommodation, transportation, and infrastructure. However, promoting responsible behaviour among people, including travellers, remains a challenge for authorities, including DMOs. With the development of information and communication technologies and the rise of various social media platforms, environmental awareness campaigns can now be conducted in different ways. The public campaign can now be published creatively in interactive mode, more interesting, and focused on the right segment. In creating an environmental attitude and promoting environmentally responsible behaviour among tourists towards tourism destinations, UGC, through social media, is frequently used (Mohamad, 2024). Using social media, individuals can share their experiences, information, and call for environmental stewardship through various formats, such as videos, images, articles, and digital campaigns (Shetu, 2024). Most notably, high engagement and interaction on social media regarding environmental issues among travellers can enhance their concern and thus foster sustainable and responsible behaviour toward the environment (Sultan et al., 2021). One advantage of UGC is its authenticity. Because of that, UGC is often more trusted than company advertisements or campaigns since the information shared comes from individuals' real-life experiences.

An example of using UGC in an environmental campaign is when individuals share activities such as cleaning up the beach area on social media and use relevant hashtags such as #greeneearth and #savetheocean. When the movement went viral and encouraged many people to participate in real action to keep the environment clean (Lacárcel et al., 2024). In addition, many influencers and environmental activists utilize UGC to spread information about the dangers of single-use plastics, climate change, and how to live an eco-friendly life. Besides, UGC can also be used by environmental organizations to strengthen their campaigns. For example, the World Wide Fund (WWF) often encourages people to share activities about wildlife in various forms of social media (Maia et al., 2024). This kind of activity can help to educate people and enhance awareness about the importance of environmental conservation. Previous studies have mentioned that individuals' knowledge and attitude toward environmental conservation can be influenced by social media content (Jie & Xueli, 2024; Sultan et al., 2021). Based on the literature, the following hypotheses were proposed:

H1: User-generated content has a significant influence on environmental concerns (P₁₂)

H2: User-generated content has a significant influence on environmental attitude (P₁₃)

Environmental concern and responsible environmental behaviour

Responsible environmental behaviour can be developed if an individual has an emotional attachment to the environment. In this context, it is known as an environmental concern and has become an important motivation factor for sustainable behaviour (Khan, 2024). According to Sadiq et al. (2022) environmental concern is considered as part of altruistic values when individuals tend to adopt pro-environmental behaviour, such as preferring eco-friendly products. Similar to that, prior studies highlight that when individuals have concerns about the environment, they will show interest and commitment, such as conserving the environment, respecting the community, protecting the habitat, and encouraging others to act the same way during their visit (Jie & Xueli, 2024; Kaur et al., 2022; Sultan et al., 2021). Basically, environmental concern can be explained as how individuals are aware of environmental problems occurring and their willingness to put effort and supporting the solution (Sadiq et al., 2022). Nowadays, it can be said that the trend towards environmental consciousness among consumers has increased due to environmental degradation. For instance, tourists today tend to choose eco-friendly accommodation and transportation over conventional ones.

Empirical evidence clearly states that tourists with environmental concern will have a positive attitude and responsible behaviour towards the environment as well. A prior study discovered that environmental concern would determine eco-friendly behaviour among travellers (Prayag et al., 2025). Additionally, green travel behaviour among Generation Z is also found to increase if they have high environmental concern (Khan, 2024). Recently, with the rise of social media and the interactivity of UGC, individuals' concerns about the environment can be influenced by other internet users. Previous literature shows a lack of studies examining the association between environmental concern and responsible environmental behaviour. Prior studies also show that concern toward environmental sustainability and interest in green tourism are consistently increasing among young tourists (Nowacki et al., 2023). Based on the discussion, the following hypotheses are proposed:

H3: Environmental concern has a significant influence on environmental attitude (P₂₃)

H4: Environmental concern has a significant influence on responsible environmental behaviour (P₂₄)

Environmental attitude and responsible environmental behaviour

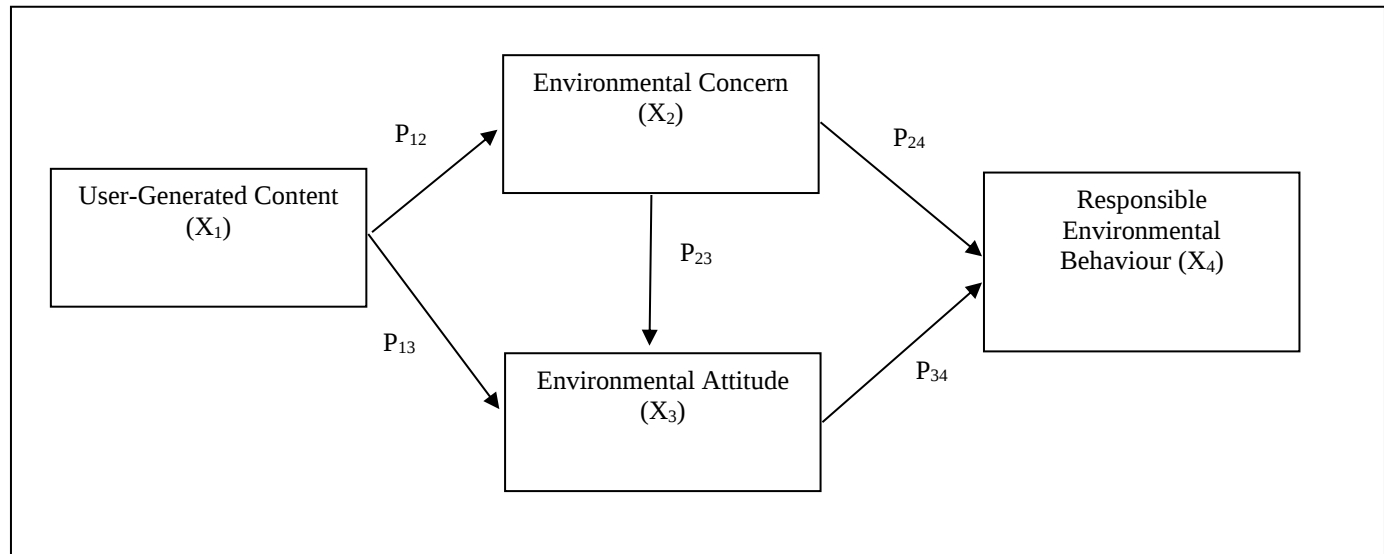
Environmental attitude is an individual's cognitive assessment of the benefit of environmental conservation. Attitude can be described as an individual's perception and feeling about a situation, either a positive or a negative evaluation, that eventually influences the individual's intention of environmental behaviour (Kaur et al., 2022; Milfont & Duckitt, 2010). Previous literature consistently emphasizes that environmental attitude is a key driver of sustainability practices behaviour (Nowacki et al., 2023; Sadiq et al., 2022; Sultan et al., 2021). In this digital era, the influence of social media platforms as an important tool in enhancing an individual's environmental attitude should be recognized, as content shared by other internet users can promote responsible behaviour at tourism destinations. Evidence from previous studies exhibits that tourists with an environmental attitude tend to practise responsible environmental behaviour, including choosing eco-friendly destinations, and practising green tourism and green purchasing during their visit (Kaur et al., 2022; Khan, 2024; Prayag et al., 2025; Sultan et al., 2021). Similarly, the literature also indicates that Generation Z is more pro-environmentally conscious than other generations (Prayag et al., 2025; Sadiq et al., 2022). In addition, previous literature stated that studies on tourist attitudes towards the environment and its association with sustainable behaviour remain limited and need thorough analysis from future studies (Nowacki et al., 2023). Therefore, this study proposes the following hypothesis:

H5: Environmental attitude has a significant influence on responsible environmental behaviour (P₃₄)

Conceptual framework

Figure 1 below illustrates the conceptual framework that indicates the relationship between the exogenous constructs and the endogenous construct. The exogenous constructs consist of user-generated content, environmental concern, and environmental attitude, while the endogenous construct refers to responsible environmental behaviour.

Figure 1. Conceptual Framework



METHODOLOGY

Research design and sampling

Based on a quantitative research approach, this study was conducted according to a cross-sectional design. Based on this design, respondents' perception regarding UGC, environmental concern and awareness, as well as responsible behaviour towards the environment, were assessed once, where no repetition in answering the research survey. The convenience sampling technique was applied to access the target sample, which refers to local tourists in Klang Valley, especially those who are actively involved with nature tourism activities. Based on that, a total of 259 respondents were assessed. Several procedures of statistical sampling have been considered in determining sample size. First, this study needs to collect at least 80 respondents, as based on the G* Power procedure 80% needs to be attained to detect R-squared (R²) values at least 0.25 at the significant level 0.05 (Hair et al., 2014; Kang, 2021). Second, based on the PLS-SEM procedure, every structural path appeared on the research model has to be multiplied by 10 (Hair et al., 2011). By following this procedure, the minimum total of respondents required for this study was 50 (5 structural paths x 10). Third, for a study with a large number or unknown population, the appropriate sample size is between 100 to 200 respondents. Lastly, for the management research category, a sample size of 200 to 500 respondents is accepted (Tabachnick & Fidell, 2007).

Research instrument-questionnaire

The research instrument is categorized into two parts. Part A includes questions about the profile demographic of respondents and other questions related to social media usage and environmental sustainability behaviour. Part B addresses respondents' perceptions of user-generated content, environmental concern, environmental attitude, and responsible environmental behaviour. All the item measurements are adapted from several previous studies. The measurement construct of UGC involves six items adapted from the study Aboalghanam et al. (2025). Additionally, to measure the construct of environmental concern, this study adapts three items from Sultan et al. (2021). Besides, four items were adapted from Jie and Xueli (2024) and Sultan et al. (2021) to measure the construct of environmental attitude. Finally, five items were also adapted from Jie and Xueli (2024) and Sultan et al. (2021) to measure the construct of responsible environmental behaviour. All items involved were then measured using a five-point Likert scale (1=strongly disagree, 5=strongly agree).

Data analysis

The IBM Statistical Package for Social Sciences (SPSS) version 25 was used to record data provided by the respondents. All data collected were analysed descriptively and inferentially. To perform inferential analysis, this study employs the Partial Least Squares-Structural Equation Modelling (PLS-SEM). Through this technique, this study would produce the reflective measurement model and the structural model systematically.

Assessment of the reflective measurement model

Four criteria were involved in the evaluation of the reflective measurement model (Hair et al., 2014). First, Cronbach's alpha and composite reliability value are above 0.7. Second, the factor loadings value is above 0.708. Third, to achieve convergent validity, the Average Variance Extracted (AVE) value must be greater than 0.5 ($AVE > 0.5$). Fourth, to achieve discriminant validity, the evaluation was conducted on cross-loading value, the Fornell-Larcker criterion ($\sqrt{AVE} > r$), and the Heterotrait-Monotrait (HTMT) ratio ($HTMT < .90$)

Assessment of the structural measurement model

Several rules need to be considered in the assessment of a structural model (Hair et al., 2014). It includes the variance inflation factor ($VIF < 5$), the path coefficient (β) value, the t-value ($t > 1.96$), the p-value ($p < 0.05$), the standard error (SE), and the confidence interval at 95%. Additionally, the study also needs to assess the coefficient of determination, that commonly known as R-squared (R^2). It explains the total variance contributed by the exogenous constructs to the endogenous constructs. The level of strength of R^2 , whether weak, moderate, or strong, is based on the total variance contributed to the endogenous construct, which is 0.25, 0.5, and 0.7, respectively.

RESULTS

Profile demographics of respondents

This study collected a total of 259 responses from the local tourists in Klang Valley. The responses collected comprised 144 (55.6%) females and 114 (44.4%) males. The average age of the respondents was 24.3 years old. Approximately 48.6% held on to a bachelor degree, while 30.1% Diploma, 10.4% Sijil Pelajaran Malaysia, and 10.8% postgraduate. In terms of ethnic groups, the majority of the respondents are Malay (65.6%), followed by Indian (13.1%), Chinese (11.2%), and Bumiputera Sabah and Sarawak (2.0%). An analysis of social media usage indicates that the majority of the respondents prefer to use TikTok (84.2%) as their main platform to search for information and share travel experiences. This is followed by Instagram (78%), YouTube (53.3%), Facebook (22.4%), platform X (10.4%), and travel review forum (5%). Moreover, 88% of the respondents are found to have high trustworthiness in content shared by other internet users on social media, while 12% do not. Besides, the analysis also revealed that 93.4% of the respondents' responsible environmental behaviour was influenced by content shared on social media, while 79.2% of the respondents were willing to encourage others to have sustainable practices through social media platforms.

Evaluation of the reflective measurement model

As shown in Table 1, the research findings indicate that the value of all criteria for reliability, discriminant validity, and convergent validity were well above the threshold. The analysis shows that factor loading for each construct involved is above 0.708 ($\lambda > 0.708$), indicator reliability greater than 0.501 ($IR > 0.501$), a Cronbach's alpha value greater than 0.7 ($\alpha > 0.7$), and composite reliability greater than 0.7 ($CR > 0.7$). This indicates that no issues were identified, whether on factor loading (λ), Cronbach Alpha (α), composite reliability (CR), and Average variance Extracted (AVE) for all constructs involved. In summary, these results exhibit that all items measured in this study are reliable, with good internal consistency, and belong to their respective constructs. Moreover, the AVE value is greater than 0.5, indicating that the items measured have a strong relationship with their construct. Thus, this study met the requirement of convergent validity.

Table 1: Reflective Measurement Model

Constructs	Items	$\lambda (>.708)$	IR (>.501)	(α)	CR	AVE
Environmental Responsible Behaviour	Behaviour_1	0.881	0.777	0.927	0.932	0.774
	Behaviour_2	0.895	0.801			
	Behaviour_3	0.863	0.745			
	Behaviour_4	0.921	0.848			
	Behaviour_5	0.835	0.697			

Environmental Attitude	Env_Att1	0.928	0.861	0.941	0.942	0.850
	Env_Att2	0.937	0.877			
	Env_Att3	0.928	0.861			
	Env_Att4	0.895	0.801			
Environmental Concern	Env_Concern1	0.926	0.857	0.931	0.932	0.880
	Env_Concern2	0.951	0.905			
	Env_Concern3	0.936	0.876			
User-Generated Content	UGC_1	0.848	0.719	0.921	0.924	0.718
	UGC_2	0.848	0.720			
	UGC_3	0.858	0.736			
	UGC_4	0.868	0.754			
	UGC_5	0.863	0.745			
	UGC_6	0.797	0.634			

Table 2 and Table 3 demonstrate the evaluation of discriminant validity based on the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio. The results verify that each construct in this study is unique and different from the other when the square root of the AVE value is greater than the correlation value between constructs ($\sqrt{\text{AVE}} > r$) and the correlation value between constructs is less than 0.9 (HTMT.90 < 0.90) (Hair et al., 2014).

Table 2. Fornell-Larcker Criterion

Constructs	1	2	3	4
Environmental Attitude (1)	0.922			
Environmental Concern (2)	0.876	0.938		
Responsible Behaviour (3)	0.840	0.821	0.879	
User-Generated Content (4)	0.659	0.673	0.673	0.847

Notes: The values in bold are AVE square root values

Table 3. Heterotrait-Monotrait (HTMT) Ratio

Constructs	1	2	3	4
Environmental Attitude (1)				
Environmental Concern (2)	0.835			
Responsible Behaviour (3)	0.795	0.880		
User-Generated Content (4)	0.605	0.724	0.730	

Evaluation of structural model

The evaluation of the structural model indicates that constructs of UGC, environmental concern, and environmental attitude have Variance Inflation Factor (VIF) values less than 5 ($\text{VIF} < 5$). This finding shows that no collinearity exists among all the constructs involved in explaining responsible environmental behaviour. In addition, the analysis of the coefficient of determination exhibits that the total variance contributed by the construct of environmental concern and environmental attitude to the construct of responsible environmental behaviour is 73.7% ($R^2 = 0.737$), while UGC alone contributes a total variance of 77.6% ($R^2 = 0.776$) to the environmental attitude and 45.2% ($R^2 = 0.452$) to the environmental concern. Based on this result, it can be summarized that the level of strength of all the exogenous constructs is moderate and strong in explaining the endogenous construct.

Hypothesis testing

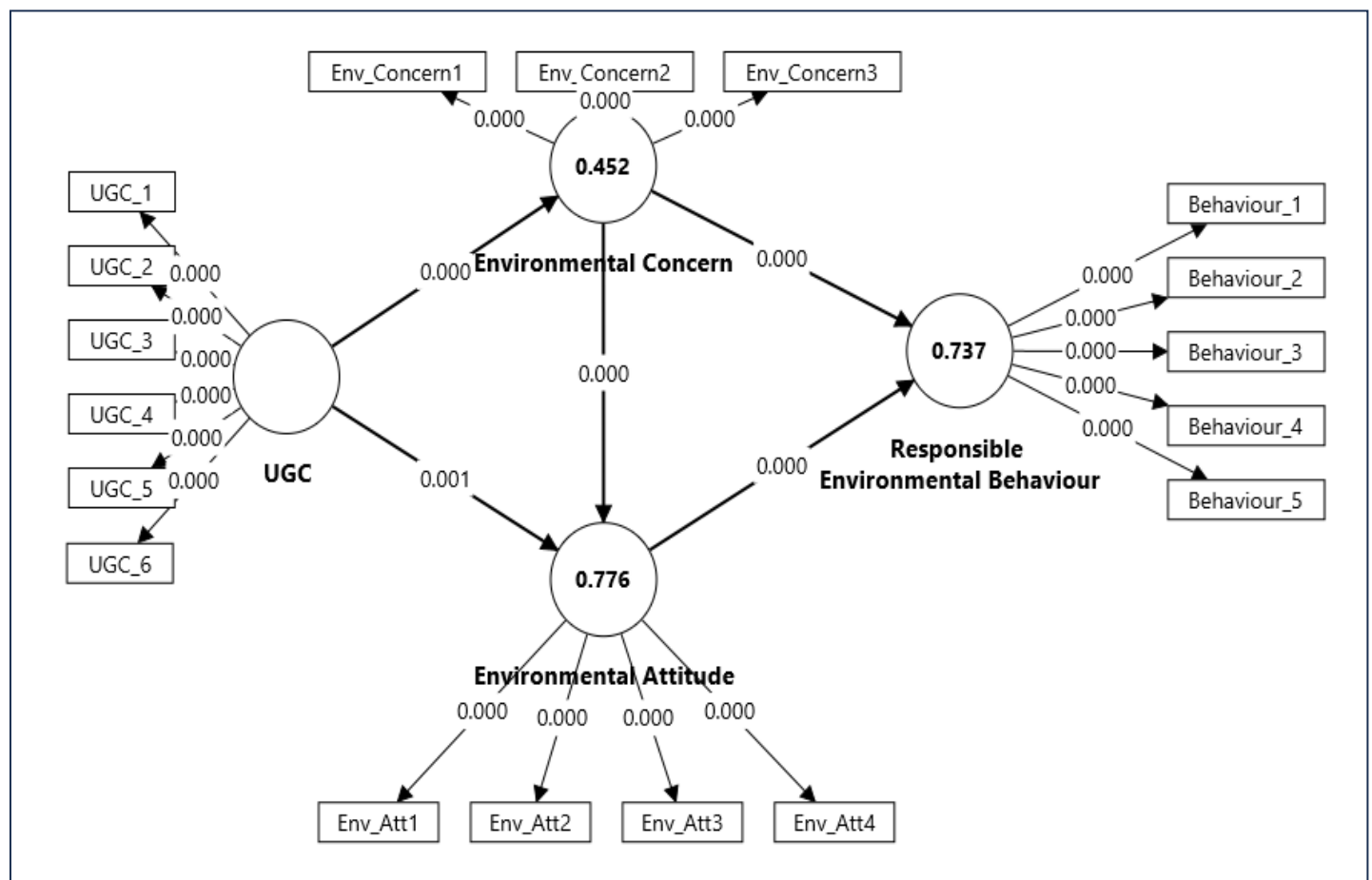
To test the hypothesis, a bootstrapping procedure using the PLS-SEM technique with 5,000 samples was employed. Based on the analysis, all the exogenous constructs were found to have a significant influence on the endogenous construct. First, user-generated content found has a significant impact on the environmental concern

($\beta = 0.673$, $t=12.68$, $p<0.005$, $CI[0.558,0.765]$) and the environmental attitude ($\beta = 0.128$, $t=3.26$, $p<0.005$, $CI[0.055,0.211]$). This result is supported by previous studies that also discovered that social media content posted by internet users can influence tourists' concern and attitude on environmental issues (Shetu, 2024; Sultan et al., 2021). Thus, Hypothesis 1 (P_{12}) and Hypothesis 2 (P_{13}) are accepted.

Next, environmental concern has a significant impact on the environmental attitude ($\beta = 0.789$, $t=20.13$, $p<0.005$, $CI[0.706,0.859]$) and the responsible environmental behaviour ($\beta = 0.369$, $t=4.12$, $p<0.005$, $CI[0.195,0.547]$). Consistent with these results are studies by Jie and Xuely (2024) and Sultan et al. (2021), which found that individuals' responsible environmental behaviour would increase with the increment of their consciousness and attitude towards the environment. Similarly, a study by Sadiq et al. (2022) also revealed that travellers with a high level of environmental concern would show a positive attitude toward the environment and tend to choose an eco-friendly hotel during their visit. Therefore, Hypothesis 3 (P_{23}) and Hypothesis 4 (P_{24}) for this study are accepted.

Lastly, the research findings discovered that environmental attitude has a significant influence on tourists' responsible environmental behaviour ($\beta = 0.517$, $t=5.67$, $p<0.005$, $CI[0.335, 0.693]$). Similar to this finding is the result of the study by Sadiq et al. (2022), which indicates that travellers with a high environmental attitude would exhibit a positive eco-friendly behaviour. Additionally, result of this study also concurs with the study by Prayag et al. (2025), which found that tourists among Generation Z are more likely to engage with the environment and perform sustainable practices. Figure 2 below illustrates the structural model.

Figure 2. Structural Model



DISCUSSION

Generally, this study aims to identify the factors that influence travellers' responsible environmental behaviour. Specifically, this study analyses the influence of UGC, environmental concern, and environmental attitude on responsible environmental behaviour. To measure the association of these variables, five hypotheses have been proposed in this study. Based on the convenience sampling technique, this study employs a self-administered

questionnaire as the research instrument for data collection. The research findings indicate that all the predictors play a significant role in developing responsible environmental behaviour. It is worth noting that UGC on social media has become a valuable source for individuals to gain insight into responsible environmental behaviour before, during, and after visiting a destination. From a tourism management perspective, sustainable practices among tourists remain a challenge. This includes practices on the usage of tourism resources, such as applying eco-friendly behaviour in choosing accommodation, transportation, and tourism activities. With the growth of information and communication technologies, social media has transformed not only in searching and gaining information but also in educational perspectives. In this case, the research finding is consistent with previous literature that indicates social media as a significant tool in influencing individuals' attitudes and behaviour towards the environment, including educating the conceptualization of the environment, creating awareness of the importance of social and natural protection, and encouraging sustainable practices (Jie & Xuely, 2024; Shetu, 2024; Sultan et al., 2021).

In addition, the research findings also align with the results of previous studies, which indicate that travellers' concern and attitude towards the environment significantly influence their responsible behaviour (Prayag et al., 2025; Sadiq et al., 2022; Sultan et al., 2021). The analysis found that travellers who also fall under the age group of 18-30 years old contribute the majority data in this study. This result demonstrates that this group of travellers, also known as Generation Z, has a strong sense of the environment. As stated by previous literature, young generations, including Generation Z, are sustainably oriented and tend to act positively towards environmental sustainability as they are more sensitive to social issues (Schönherr & Pikkemaat, 2024). Besides, in line with the findings of Wu et al. (2021), social influence plays an important role in influencing Generation Z's behaviour. This includes social pressure for environmental protection and sustainability. Due to that, social media is recognized as an external agent for shaping Generation Z's responsible attitude towards environmental protection and cultural preservation (Jie & Xuely, 2024; Musto & Dahanayake, 2022; Wijaya et al., 2024). Additionally, Generation Z is also known as the generation that prefers to avoid waste during their holidays and is more likely to respect local culture (Prayag et al., 2025).

Most notably, the results of this study support the suggestion of previous studies that UGC through social media provides significant support to enhance travellers' responsible environmental behaviour by linking it to the environmental concerns and attitudes. It is worth noting that UGC and interaction on social media among internet users regarding tourism issues, such as responsible behaviour practices among tourists, can increase awareness of sustainable practices behaviour at a destination. To this end, this study explored the roles of social media and its potential in shaping tourists' psychological transformation to responsible environmental behaviour.

CONCLUSION

In conclusion, this study provides new insight into the field of UGC and responsible environmental behaviour at a tourism destination. The research findings exhibit that UGC is useful as a valuable tool in examining tourists' responsible environmental behaviour. Besides the practical implications, this study is also faced with several limitations. First, this study investigates the influence of UGC as a main external driver for tourists' responsible environmental behaviour. However, the roles of constructs of environmental concerns and attitude are only tested for a direct relationship to responsible environmental behaviour. Hence, future studies are suggested to analyse environmental concerns and attitudes as a mediator in the relationship between UGC and responsible environmental behaviour. Next, this study only focuses on UGC as an external factor that predicts the environmental concerns, environmental attitudes, and responsible environmental behaviour. Thus, future studies are suggested to add other factors such as social pressure, health concern, or determine the influence of UGC from cognitive and affective perspectives. Additionally, in terms of target sample, segmentation for this study is local tourists of Klang Valley, Malaysia, which the generalizability of the research findings is limited due to the limitations of the total respondents. To make the research findings robust and generalizable, future research is encouraged to conduct a cross-cultural comparison to measure different perceptions of UGC between local and international tourists or from different generations of tourists. Lastly, this study was conducted based on a cross-sectional design and convenience sampling technique to a group of respondents only in the Klang Valley. This method has the possibility to increase the common method bias. Therefore, future studies are strongly recommended to conduct longitudinal studies to measure tourist behaviour from different time frames.

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