






Research article

Behavioural innovation in sustainable tourism: The role of personal norms and social media among Generation Z

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ABSTRACT

Sustainable tourism increasingly requires innovative approaches to shaping tourist behaviour, particularly among younger generations who are strongly influenced by social and digital environments. This study investigates behavioural innovation in sustainable tourism by examining the psychological and social mechanisms that drive responsible travel behaviour among Generation Z. Grounded in the Normative Activation Model and Social Norm Theory, the study analyses the effects of awareness of consequences, ascription of responsibility, personal norms, social media engagement, and online community involvement on sustainable tourism behaviour. Quantitative data were collected from 297 Generation Z tourists in Ho Chi Minh City and analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The findings indicate that ascription of responsibility and personal norms are the strongest predictors of sustainable tourism behaviour, underscoring the central role of internalised moral regulation in behavioural innovation. Social media engagement and online community involvement also exert significant, albeit more moderate, influences, highlighting the supporting role of digital and social innovation in shaping tourism behaviour. This study contributes to the sustainable tourism literature by empirically conceptualising behavioural innovation as an outcome of the interaction between internal normative mechanisms and digitally mediated social influences among Generation Z in an emerging urban destination. Practical implications are provided for tourism managers and policymakers aiming to design innovative strategies that promote responsible behaviour among young travellers.

KEYWORDS

Sustainable tourism;
behavioural innovation;
Generation Z;
social media engagement;
tourism behaviour

Introduction

Tourism has long been recognised as a major driver of economic development, cultural exchange, and destination competitiveness. However, the rapid expansion of tourism activities has also intensified environmental degradation, social pressure on host communities, and resource depletion, prompting growing concern over the sustainability of tourism systems (Hall & Williams, 2019). In response, sustainable tourism has emerged not only as an ethical imperative but also as a field requiring continuous innovation in how tourist behaviour is shaped, regulated, and encouraged (Nicolaidis & Tichaawa, 2025). In recent years, innovation in tourism has increasingly extended beyond technological advancement to encompass behavioural, social, and digital dimensions (Hjalager, 2010). Behavioural innovation refers to new ways of influencing, motivating, and sustaining responsible behaviour among tourists through psychological, social, and normative mechanisms. Such innovation is particularly critical in sustainable tourism, where the success of sustainability strategies largely depends on tourists' willingness to internalise responsibility and translate

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awareness into concrete action (Kollmuss & Agyeman, 2002). Generation Z represents a pivotal segment in this transformation. As digital natives, Generation Z tourists are characterised by high levels of environmental awareness, ethical sensitivity, and strong engagement with social media platforms (Francis & Hoefel, 2018; Ahmed et al., 2025). Nevertheless, previous studies consistently report a discrepancy between sustainability attitudes and actual behaviour among young travellers, commonly described as the attitude–behaviour gap (Juvan & Dolnicar, 2014; Salinero et al., 2022). This paradox highlights the need for innovative behavioural mechanisms capable of bridging the gap between intention and action in sustainable tourism contexts. From a social sciences perspective, sustainable tourism behaviour is shaped by both internal psychological processes and external social influences. The Normative Activation Model (NAM) posits that awareness of consequences, ascription of responsibility, and personal norms play a central role in motivating pro-social and pro-environmental behaviour (Schwartz, 1977). Empirical tourism research has confirmed the relevance of NAM in explaining environmentally responsible tourist behaviour (Han & Hyun, 2017). Complementing this perspective, Social Norm Theory (SNT) emphasises the influence of perceived social expectations and reference groups on individual decision-making (Perkins & Berkowitz, 1986; Septyandi et al., 2025). In contemporary tourism settings, these mechanisms increasingly operate within digital environments, where social media and online communities act as platforms for social and behavioural innovation. Despite the expanding literature on sustainable tourism behaviour, limited attention has been paid to behavioural innovation among Generation Z tourists, particularly in emerging tourism destinations. Existing studies tend to prioritise technological or managerial innovation, while underexploring how social and digital innovations interact with normative and psychological drivers to shape sustainable behaviour (Hall & Williams, 2019). This gap is especially pronounced in rapidly urbanising destinations in Southeast Asia, where young tourists play an increasingly influential role in shaping tourism demand and practices.

Addressing this gap, the present study investigates behavioural innovation in sustainable tourism by examining the combined effects of awareness of consequences, ascription of responsibility, personal norms, social media engagement, and online community involvement on sustainable tourism behaviour among Generation Z. Using quantitative data collected from young tourists in Ho Chi Minh City and analysed through Partial Least Squares Structural Equation Modelling (PLS-SEM), this study provides empirical insights into how internalised norms and digital social influences contribute to innovative forms of responsible tourism behaviour. By integrating established behavioural theories with contemporary digital contexts, this study contributes to the tourism and innovation literature in three ways. First, it conceptualises behavioural innovation as a critical dimension of sustainable tourism. Second, it offers empirical evidence on the role of social and digital innovation in shaping Generation Z tourists' behaviour. Third, it provides practical implications for tourism managers and policymakers seeking innovative strategies to promote sustainable tourism practices in emerging destinations.

Theoretical frameworks and hypotheses

Theoretical framework

Understanding sustainable tourism behaviour requires an integrated theoretical perspective that captures both internal psychological mechanisms and external social influences shaping tourist decision-making. From a social sciences standpoint, behavioural innovation in tourism emerges when individuals adopt new or transformed behavioural patterns in response to normative, social, and contextual drivers. In this study, sustainable tourism behaviour is conceptualised as an outcome of behavioural innovation, shaped through the interaction of moral norms, perceived responsibility, and digitally mediated social influences. To explain these mechanisms, this study integrates three complementary theoretical frameworks: the Normative Activation Model (NAM), the Theory of Planned Behavior (TPB), and Social Norm Theory (SNT). Together, these frameworks provide a robust analytical foundation for examining how behavioural innovation in tourism is formed and sustained, particularly among Generation Z tourists (Ahmed et al., 2025). The NAM offers a well-established explanation of pro-social and pro-environmental behaviour by focusing on moral and normative processes (Schwartz, 1977). According to NAM, individuals are more likely to engage in responsible behaviour when they (1) are aware of the negative consequences of their actions (awareness of consequences – AC), (2) feel personally responsible for those consequences (ascription of responsibility – AR), and (3) internalise moral obligations in the form of personal norms (PN). In the context of sustainable tourism, NAM has been widely applied to explain environmentally responsible tourist behaviour, demonstrating that internalised moral responsibility plays a central role in motivating sustainable practices (Han & Hyun, 2017; Gao et al., 2017). From an innovation perspective, NAM can be interpreted as a framework for understanding behavioural innovation, as it explains how new forms of responsible behaviour emerge through the internalisation of ethical and normative values. For Generation Z tourists, who often exhibit high levels of sustainability awareness, behavioural innovation occurs when this awareness is

transformed into stable personal norms that guide consistent sustainable tourism behaviour (Septyandi et al., 2025).

While NAM emphasises internal moral processes, it does not fully account for the influence of social expectations and perceived behavioural constraints. To address this limitation, the present study draws on the Theory of Planned Behavior (TPB) (Ajzen, 1991). TPB posits that behaviour is shaped by attitudes, subjective norms, and perceived behavioural control. Within this framework, subjective norms (SN) reflect perceived social pressure from significant others and reference groups. In tourism settings, subjective norms are particularly relevant for Generation Z, whose behaviour is strongly influenced by peer evaluation and social validation within digital environments. However, empirical research suggests that social pressure alone may not be sufficient to produce sustained behavioural change unless it is internalised into personal norms (Salinero et al., 2022). Accordingly, in this study, subjective norms are conceptualised as an external social influence that contributes indirectly to behavioural innovation by shaping personal norms rather than directly determining behaviour. To further capture the role of socially mediated influences, the study incorporates Social Norm Theory (SNT) (Perkins & Berkowitz, 1986). SNT emphasises how individuals' perceptions of group norms and typical behaviour influence their own actions, particularly in contexts where social comparison and group identification are salient. In contemporary tourism contexts, these processes increasingly operate within digital and social media environments, where norms are communicated, reinforced, and sometimes distorted through online interaction. For Generation Z tourists, social media engagement (SME) and online community involvement (OCI) function as key channels of social and digital innovation. Through exposure to sustainability-related content, peer behaviour, and community narratives, young tourists may adopt new behavioural standards that redefine what is considered desirable or acceptable tourism behaviour. These digitally mediated norms can support behavioural innovation by amplifying awareness, reinforcing responsibility, and normalising sustainable tourism practices. By integrating NAM, TPB, and SNT, this study conceptualises sustainable tourism behaviour (STB) as the outcome of an innovation process in which internalised moral norms interact with social and digital influences. This integrated framework enables a nuanced examination of how behavioural innovation in sustainable tourism is shaped among Generation Z and provides a comprehensive foundation for the hypotheses developed in the following section.

Hypotheses development

The Normative Activation Model (NAM) posits that pro-social and pro-environmental behaviour is primarily driven by internal moral processes, beginning with awareness of negative consequences and culminating in the formation of personal norms (Schwartz, 1977). In tourism contexts, awareness of the environmental and social impacts of tourism activities increases tourists' sense of moral responsibility, motivating them to act in more sustainable ways (Han & Hyun, 2017). Awareness of consequences (AC) refers to individuals' recognition of the adverse effects of tourism on natural environments and host communities. When tourists are aware of these consequences, they are more likely to feel personally accountable for mitigating such impacts. This perceived accountability is conceptualised as ascription of responsibility (AR). Empirical studies have consistently shown that awareness of consequences positively influences ascription of responsibility in environmentally relevant behaviour (Gao et al., 2017; Sungkawati et al., 2025). Accordingly, the following hypothesis is proposed:

H1: Awareness of consequences (AC) positively influences ascription of responsibility (AR)

Ascription of responsibility represents a critical step in the internalisation of moral obligations. When individuals perceive themselves as responsible for the outcomes of their actions, they are more likely to develop internal moral standards that guide future behaviour. These internal standards are captured by personal norms (PN), which reflect feelings of moral obligation to engage in sustainable behaviour (Schwartz, 1977). Thus, the following relationship is hypothesised:

H2: Ascription of responsibility (AR) positively influences personal norms (PN)

Beyond their indirect effects, internal normative mechanisms may also exert direct influences on behaviour. Tourists who are aware of the negative consequences of tourism may engage in certain sustainable practices that require minimal effort, such as conserving energy or reducing waste, even in the absence of strong personal norms. Similarly, a strong sense of responsibility may directly motivate behavioural choices, such as selecting environmentally friendly transport options or accommodation (Sungkawati et al., 2025). Therefore, the following hypotheses are proposed:

H3: Awareness of consequences (AC) positively influences sustainable tourism behaviour (STB)

H4: Ascription of responsibility (AR) positively influences sustainable tourism behaviour (STB)

Personal norms represent the most internalised form of moral regulation within the NAM framework. When sustainable behaviour is guided by personal norms, it becomes more stable and less dependent on situational cues. From an innovation perspective, this internalisation reflects behavioural innovation, as individuals adopt new behavioural patterns that persist over time. Accordingly, the following hypothesis is formulated:

H5: Personal norms (PN) positively influence sustainable tourism behaviour (STB).

Social influence, digital engagement, and behavioural innovation

While internal moral processes are central to behavioural innovation, sustainable tourism behaviour is also shaped by social influences. The Theory of Planned Behavior (TPB) emphasises the role of subjective norms (SN), defined as perceived social pressure from important reference groups (Ajzen, 1991). In tourism settings, subjective norms may arise from peers, family members, or online social networks. For Generation Z tourists, subjective norms are particularly salient due to their high sensitivity to peer evaluation and social comparison within digital environments. However, previous research suggests that subjective norms are more effective when they are internalised into personal norms rather than operating as external pressure alone (Salinero et al., 2022). Based on this reasoning, the following hypotheses are proposed:

H6: Subjective norms (SN) positively influence personal norms (PN)

H7: Subjective norms (SN) positively influence sustainable tourism behaviour (STB).

In contemporary tourism contexts, social norms are increasingly communicated and reinforced through digital platforms. Social media engagement (SME) enables tourists to access sustainability-related information, observe peer behaviour, and participate in norm-building processes. Exposure to sustainability-oriented content on social media may enhance awareness, reinforce responsibility, and normalise sustainable tourism practices. Accordingly, social media engagement can be conceptualised as a form of digital innovation that supports behavioural innovation in tourism (Khan & Khaki, 2025). Therefore, the following hypothesis is proposed:

H8: Social media engagement (SME) positively influences sustainable tourism behaviour (STB).

In addition to social media, online community involvement (OCI) provides a collective context in which norms and values related to sustainability are shared and reinforced. Participation in online communities focused on travel or sustainability may strengthen individuals' commitment to responsible behaviour through mechanisms of social identification and collective responsibility. Thus, the final hypothesis is formulated as follows:

H9: Online community involvement (OCI) positively influences sustainable tourism behaviour (STB).

Research methodology

Research design and data collection

This study employed a quantitative, cross-sectional research design to examine behavioural innovation in sustainable tourism among Generation Z tourists. A survey-based approach was adopted to capture respondents' perceptions, normative orientations, and behavioural tendencies related to sustainable tourism practices. This design is appropriate for investigating complex relationships between psychological, social, and digital factors within a tourism and innovation context. The target population comprised Generation Z individuals aged between 13 and 30 years who had prior travel experience. Data collection was conducted in December 2025 using a mixed-mode approach that combined on-site and online surveys. A total of 305 questionnaires were initially collected. After data screening and removal of incomplete or invalid responses, 297 valid questionnaires were retained for subsequent analysis, meeting the recommended sample size requirements for Partial Least Squares Structural Equation Modelling (PLS-SEM). On-site data collection was carried out at major tourist attractions in Ho Chi Minh City, including the Saigon Zoo and Botanical Garden, the Ho Chi Minh City Museum, Saigon Riverside Park, and the Central Post Office. These locations were selected due to their popularity among young travellers and their relevance to sustainable tourism practices. The on-site survey enabled direct engagement with respondents in real tourism settings, enhancing the contextual validity of the data. To complement the on-site survey, an online questionnaire was distributed

via social media platforms commonly used by Generation Z, such as Facebook and Zalo. Screening questions were included to ensure that respondents met the age and travel experience criteria. The combined online and offline data collection approach increased sample diversity and reduced potential bias associated with reliance on a single data collection method.

Measurement instruments

The survey instrument was developed based on validated measurement scales from prior research in sustainable tourism, environmental behaviour, and consumer behaviour. All measurement items were assessed using a five-point Likert scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). Awareness of Consequences (AC) measured respondents’ recognition of the environmental and social impacts associated with tourism activities, including perceptions of resource depletion and environmental degradation. Ascription of Responsibility (AR) captured the extent to which respondents felt personally responsible for addressing the negative consequences of tourism and contributing to sustainable outcomes. Personal Norms (PN) assessed internalised moral obligations guiding sustainable tourism behaviour, reflecting the degree to which sustainability-related actions were driven by personal ethical standards rather than external pressure. Subjective Norms (SN) measured perceived social expectations from important reference groups, such as peers and online networks, regarding engagement in sustainable tourism practices. Social Media Engagement (SME) evaluated respondents’ level of interaction with sustainability-related tourism content on social media platforms, including information seeking, content sharing, and peer engagement. Online Community Involvement (OCI) assessed respondents’ participation in online travel or sustainability-related communities, capturing collective engagement and shared normative influence. Sustainable Tourism Behaviour (STB) was conceptualised as a multidimensional construct encompassing four behavioural dimensions: (1) Pro-environmental behaviour, (2) Pro-economic behaviour, (3) Pro-social behaviour, and (4) Pro-cultural behaviour. These dimensions reflect a holistic understanding of sustainable tourism behaviour that integrates environmental responsibility, economic support for local communities, social interaction, and respect for cultural heritage. All constructs were subjected to reliability and validity assessment prior to hypothesis testing.

Data analysis procedure

Data analysis was conducted using Partial Least Squares Structural Equation Modelling (PLS-SEM) with SmartPLS 3 software. PLS-SEM was selected due to its suitability for theory development and prediction-oriented research, particularly for complex models involving multiple constructs and mediating relationships. The analysis followed a two-stage procedure. First, the measurement model was evaluated to assess internal consistency reliability, convergent validity, and discriminant validity. Internal consistency was examined using Cronbach’s alpha, composite reliability (CR), and rho_A. Convergent validity was assessed through average variance extracted (AVE), while discriminant validity was evaluated using the Fornell–Larcker criterion and the heterotrait–monotrait (HTMT) ratio. Second, the structural model was assessed by examining path coefficients, coefficients of determination (R^2), predictive relevance (Q^2), and variance inflation factors (VIF) to detect potential multicollinearity issues. Hypothesis testing was performed using a bootstrapping procedure with 5,000 resamples to determine the statistical significance of the proposed relationships. This analytical procedure provided a rigorous evaluation of the research model and enabled robust examination of the role of internal normative mechanisms and social–digital influences in driving behavioural innovation in sustainable tourism among Generation Z tourists.

Results

Measurement model

To assess the reliability and validity of the measurement model, a series of statistical tests were conducted in accordance with the guidelines for structural equation modelling (Bagozzi & Yi, 1988). Internal consistency reliability was evaluated using Cronbach’s alpha, composite reliability (CR), and rho_A. As reported in Table 1, all constructs met the recommended threshold values, with Cronbach’s alpha ranging from 0.716 to 0.851 and CR values ranging from 0.840 to 0.906. These results indicate a high level of internal consistency among the measurement scales (Bagozzi & Yi, 1988). In addition, all rho_A values exceeded the recommended cut-off value of 0.70, further confirming the reliability of the constructs.

Convergent validity was assessed by examining the outer loadings of the observed indicators and the average variance extracted (AVE). All indicator loadings were greater than the recommended threshold of 0.70, indicating that the observed variables adequately represented their respective latent constructs (Hair et al., 2019). Furthermore, the AVE values ranged from 0.571 to 0.762, exceeding the minimum criterion of 0.50

as proposed by Fornell and Larcker (1981). These results confirm that the constructs demonstrate satisfactory convergent validity.

Table 1. Reliability and convergent validity of constructs

Construct	Cronbach's Alpha	rho_A	CR	AVE
Online Community Involvement (OCI)	0.782	0.788	0.859	0.604
Personal Norms (PN)	0.848	0.851	0.898	0.687
Subjective Norms (SN)	0.716	0.733	0.840	0.637
Awareness of Consequences (AC)	0.818	0.827	0.880	0.647
Ascription of Responsibility (AR)	0.844	0.847	0.906	0.762
Social Media Engagement (SME)	0.832	0.851	0.887	0.662
Pro-Economic Behaviour (PrEB)	0.851	0.853	0.899	0.571
Pro-Environmental Behaviour (PEB)	0.850	0.859	0.889	0.571
Pro-Cultural Behaviour (PCB)	0.838	0.856	0.891	0.671
Pro-Social Behaviour (PSB)	0.840	0.841	0.893	0.676

To establish discriminant validity, the heterotrait–monotrait (HTMT) ratio was first examined. All HTMT values were below the recommended threshold of 1.00 (Henseler et al., 2015), suggesting that the constructs were empirically distinct and not excessively correlated. Discriminant validity was further assessed using the Fornell–Larcker criterion, which requires that the square root of the AVE for each construct be greater than its correlations with other constructs in the model (Fornell & Larcker, 1981).

Table 2. Discriminant validity – Fornell–Larcker criterion

	OCI	PN	SN	AC	AR	SME	PrEB	PEB	PCB	PSB
OCI	0.777									
PN	0.169	0.829								
SN	0.006	0.189	0.798							
AC	0.104	0.083	0.236	0.804						
AR	0.083	0.413	0.152	0.405	0.873					
SME	0.355	0.072	0.171	0.056	−0.052	0.814				
PrEB	0.322	0.315	0.161	0.307	0.387	0.228	0.831			
PEB	0.140	0.240	0.152	0.140	0.309	0.190	0.218	0.756		
PCB	0.142	0.171	0.032	0.056	0.210	0.176	0.104	0.179	0.819	
PSB	0.193	0.264	0.171	0.253	0.324	0.217	0.302	0.188	−0.060	0.822

Note: Diagonal elements (in bold) represent the square root of AVE.

Overall, the results indicate that the measurement model demonstrates adequate levels of reliability, convergent validity, and discriminant validity. These findings confirm that the measurement scales used in this study appropriately capture the underlying behavioural and normative constructs related to sustainable tourism behaviour among Generation Z travellers in Ho Chi Minh City, thereby providing a robust foundation for subsequent structural model analysis.

Structural model

The structural model was analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) with SmartPLS 3 software (Dijkstra & Henseler, 2015). This method was selected due to its suitability for analysing complex behavioural models involving multiple mediating relationships and indirect effects, particularly in social sciences and tourism research (Bagozzi & Yi, 1988; Hair et al., 2019). The results provide comprehensive insights into the internal normative mechanisms and external social–digital factors influencing sustainable tourism behaviour among Generation Z. Prior to hypothesis testing, potential multicollinearity among predictor constructs was assessed using the variance inflation factor (VIF). All VIF values were below the recommended threshold of 5.0, indicating that multicollinearity was not a concern and that the estimated path coefficients were reliable (Hair et al., 2019).

Explanatory power and predictive relevance of the model:

The explanatory power of the model was evaluated using the coefficient of determination (R^2). As presented in Table 3, the R^2 value for Sustainable Tourism Behaviour (STB) was 0.471, indicating that the model explains 47.1% of the variance in sustainable tourism behaviour. This level of explanatory power is considered moderate to substantial in behavioural research, suggesting that both internal and external factors jointly play a meaningful role in shaping Generation Z's sustainable travel behaviour. The endogenous constructs Ascription of Responsibility (AR) and Personal Norms (PN) achieved R^2 values of 0.164 and 0.188, respectively, indicating that awareness-related and social factors provide a moderate level of explanation for internal normative processes. The predictive relevance of the model was further assessed using the Q^2 statistic (blindfolding). All Q^2 values were greater than zero, confirming that the model possesses adequate predictive capability (Bagozzi & Yi, 1988).

Table 3. Coefficient of determination (R^2)

Construct	R^2	Adjusted R^2
Personal Norms (PN)	0.188	0.182
Sustainable Tourism Behaviour (STB)	0.471	0.461
Ascription of Responsibility (AR)	0.164	0.161

Source: Authors' analysis, 2025

The results further show that Awareness of Consequences (AC) and Ascription of Responsibility (AR) jointly explain 18.8% of the variance in Personal Norms (PN). This finding aligns with the Normative Activation Model (NAM), which posits that awareness of negative consequences and responsibility attribution are critical antecedents of internalised moral norms that guide pro-social and pro-environmental behaviour (Schwartz, 1977). It also supports the Theory of Planned Behavior, suggesting that internal values play a more decisive role than external pressure in shaping behaviour (Ajzen, 1991).

Hypothesis testing and structural relationships:

Hypothesis testing was conducted using a bootstrapping procedure with 5,000 resamples. The results of the structural relationships are summarised in Table 4.

Table 4. Results of hypothesis testing (Level 1)

Hypothesis	Relationship	Path coefficient	STDEV	p-value	Result
H1	AC → AR	0.405	0.074	0.000	Accepted
H2	AR → PN	0.394	0.062	0.000	Accepted
H3	AC → STB	0.127	0.054	0.019	Accepted
H4	AR → STB	0.372	0.056	0.000	Accepted
H5	PN → STB	0.191	0.051	0.000	Accepted
H6	SN → PN	0.130	0.048	0.007	Accepted
H7	SN → STB	0.051	0.055	0.356	Not accepted
H8	SME → STB	0.258	0.049	0.000	Accepted
H9	OCI → STB	0.179	0.044	0.000	Accepted

The results indicate that Awareness of Consequences (AC) has a strong positive effect on Ascription of Responsibility (AR), which in turn significantly influences Personal Norms (PN). This sequential pathway confirms the central mechanism proposed by the Normative Activation Model. While the direct effect of awareness on behaviour is relatively modest, its indirect effects through responsibility and personal norms are substantial, highlighting the importance of internalised moral regulation in driving sustainable tourism behaviour (Han & Hyun, 2017). Among the internal drivers, Ascription of Responsibility (AR) emerged as the strongest direct predictor of sustainable tourism behaviour, underscoring the role of responsibility perception in translating awareness into concrete action (Gao et al., 2017). Personal Norms (PN) also exerted a significant direct effect, indicating that when sustainable behaviour is guided by internal moral standards, it becomes more consistent and stable. In contrast, Subjective Norms (SN) did not have a significant direct effect on sustainable tourism behaviour. However, subjective norms exerted a significant indirect influence through personal norms, suggesting that social expectations must be internalised into personal values to effectively motivate behaviour. This finding provides empirical support for Social Norm Theory in digital and tourism contexts (Perkins & Berkowitz, 1986).

Effects of social and digital innovation factors:

Regarding external influences, Social Media Engagement (SME) and Online Community Involvement (OCI) both demonstrated significant positive effects on sustainable tourism behaviour, with path coefficients of 0.258 and 0.179, respectively. These findings highlight the role of digital and social platforms as important channels for disseminating sustainability norms and reinforcing responsible behaviour among Generation Z. However, the relatively modest effect sizes suggest that digital exposure alone is insufficient to produce strong behavioural change without complementary internal motivation (Radi & Shokouhyar, 2021).

Behavioural dimensions of sustainable tourism behaviour:

To further explore the structure of sustainable tourism behaviour, the second-order construct was decomposed into four behavioural dimensions. The results are presented in Table 5.

Table 5. Results of hypothesis testing (Level 2)

Relationship	Path coefficient	STDEV	p-value	Result
Pro-Economic Behaviour (PrEB) → STB	0.335	0.033	0.000	Accepted
Pro-Environmental Behaviour (PEB) → STB	0.503	0.034	0.000	Accepted
Pro-Cultural Behaviour (PCB) → STB	0.354	0.036	0.000	Accepted
Pro-Social Behaviour (PSB) → STB	0.419	0.028	0.000	Accepted

Among the four dimensions, pro-environmental behaviour exhibited the strongest contribution to overall sustainable tourism behaviour, reflecting Generation Z's pronounced concern for environmental protection. Pro-social and pro-cultural behaviours also showed substantial effects, indicating strong engagement with host communities and respect for cultural heritage. Pro-economic behaviour, although significant, displayed a comparatively weaker influence, suggesting that economic considerations may be secondary to environmental and social values among young tourists. Figure 1 presents the structural model with the standardised path coefficients and explanatory power (R^2) of the endogenous constructs.

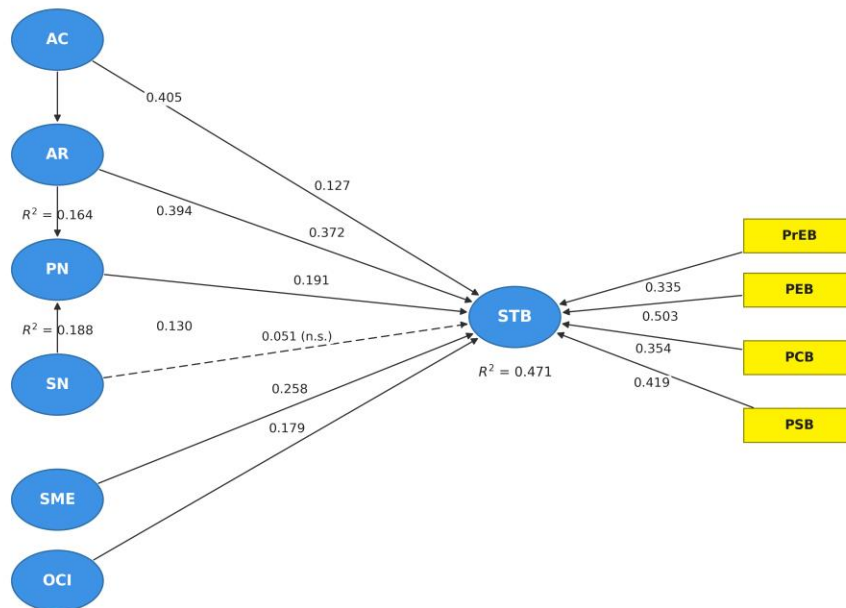


Figure 1. Structural model of sustainable tourism behaviour among Generation Z

The findings confirm the existence of an attitude–behaviour gap, as Generation Z tourists exhibit relatively high awareness of sustainability issues, while actual behaviour remains uneven (Kollmuss & Agyeman, 2002). This gap may be attributed to perceived behavioural inefficacy, practical constraints, and insufficient internalisation of social pressure. The non-significant direct effect of subjective norms further reinforces the notion that behavioural change requires alignment between external influence and internal moral commitment. Overall, the results emphasise the importance of integrating internal normative mechanisms with external digital and social reinforcement strategies. Policy interventions, digital engagement initiatives, and habit-forming mechanisms that strengthen personal responsibility and moral commitment are likely to be most effective in fostering sustainable tourism behaviour among Generation Z. These findings contribute to advancing theoretical understanding of behavioural innovation in sustainable tourism and offer practical insights for policymakers and tourism practitioners in emerging destinations.

Discussion

This study set out to examine behavioural innovation in sustainable tourism by integrating internal normative mechanisms with social and digital influences among Generation Z tourists. The results provide several important insights into how sustainable tourism behaviour is formed, reinforced, and constrained within contemporary tourism contexts.

Internal normative mechanisms and behavioural innovation

Consistent with the Normative Activation Model (NAM), the findings confirm that awareness of consequences (AC) and ascription of responsibility (AR) play a central role in shaping personal norms (PN), which subsequently influence sustainable tourism behaviour (Nicolaidis & Tichaawa, 2025). The strong relationship between awareness and responsibility suggests that Generation Z tourists are cognitively aware of the negative impacts of tourism and are capable of attributing responsibility to themselves as individual actors. However, the results indicate that awareness alone is insufficient to drive behavioural change. Although awareness of consequences exerts a significant direct effect on sustainable tourism behaviour, this effect is relatively modest compared to its indirect influence through responsibility and personal norms. This finding aligns with previous studies suggesting that awareness represents an initial cognitive condition rather than a decisive behavioural trigger (Kollmuss & Agyeman, 2002; Han & Hyun, 2017). From an innovation perspective, this process reflects behavioural innovation, whereby sustainable tourism behaviour emerges through the internalisation of moral responsibility rather than through external enforcement. Personal norms function as an internal regulatory mechanism that stabilises behaviour over time, reducing dependence on situational cues. The strong direct effect of ascription of responsibility on behaviour further underscores the importance of responsibility perception in transforming sustainability attitudes into concrete actions.

The role of social norms and internalisation processes

The findings related to subjective norms (SN) provide nuanced support for Social Norm Theory and the Theory of Planned Behavior. While subjective norms do not exert a significant direct influence on sustainable tourism behaviour, they have a meaningful indirect effect through personal norms. This pattern suggests that social expectations alone do not compel Generation Z tourists to behave sustainably unless those expectations are internalised into personal moral standards (Ahmed et al., 2025). This result helps explain the persistence of the attitude–behaviour gap in sustainable tourism. Social pressure, particularly in digitally mediated environments, may raise awareness or shape attitudes but remains insufficient to produce sustained behavioural change without moral internalisation. These findings corroborate earlier research indicating that normative influence is most effective when it aligns with individuals' value systems (Esfandiar et al., 2020). Importantly, this insight challenges intervention strategies that rely solely on social approval or peer pressure. Instead, it highlights the need for tourism initiatives that facilitate the transformation of external norms into internal commitments, thereby fostering long-term behavioural innovation.

Social and digital innovation in sustainable tourism behaviour

The results demonstrate that social media engagement (SME) and online community involvement (OCI) exert significant but moderate effects on sustainable tourism behaviour. These findings confirm the growing role of digital platforms as channels of social and digital innovation in tourism, particularly for Generation Z, a cohort deeply embedded in online environments. Digital platforms enable the diffusion of sustainability narratives, peer examples, and community-based norms, thereby reinforcing awareness and responsibility. However, the relatively modest effect sizes suggest that digital exposure alone does not guarantee behavioural change (Khan & Khaki, 2025). This finding aligns with prior studies indicating that online engagement often influences cognition and intention more strongly than actual behaviour (Radi & Shokouhyar, 2021). From an innovation standpoint, these results suggest that digital tools are most effective when integrated with behavioural mechanisms that encourage reflection, responsibility, and habit formation. Passive exposure to sustainability content is unlikely to produce lasting behavioural change unless accompanied by interactive, incentive-based, or feedback-driven interventions.

Behavioural dimensions of sustainable tourism

An analysis of the behavioural dimensions reveals that pro-environmental behaviour contributes most strongly to overall sustainable tourism behaviour, followed by pro-social, pro-cultural, and pro-economic behaviours. This pattern indicates that Generation Z tourists are particularly responsive to environmental concerns, reflecting heightened sensitivity to climate change and ecological degradation (Septyandi et al., 2025; Sungkawati et al., 2025). The comparatively weaker influence of pro-economic behaviour suggests a distinction between consumption practices and economic consciousness. While young tourists may engage with local services and products, such behaviour may be driven by experiential preferences rather than deliberate economic support. This finding underscores the need for clearer communication of the economic benefits of sustainable tourism practices to local communities. Overall, the multidimensional structure of sustainable tourism behaviour highlights the importance of adopting holistic strategies that address environmental, social, cultural, and economic dimensions simultaneously.

Implications for behavioural innovation and sustainable tourism policy

Taken together, the findings highlight the importance of integrating internal normative mechanisms with external reinforcement strategies to promote sustainable tourism behaviour. Behavioural innovation in tourism does not emerge solely from technological advancement or digital communication, but from the alignment of awareness, responsibility, moral commitment, and supportive social environments (Septyandi et al., 2025). For policymakers and tourism practitioners, this implies that sustainability initiatives should prioritise interventions that strengthen personal responsibility and moral engagement, such as educational programs, reflective messaging, and value-based storytelling. Digital platforms should be leveraged not merely as information channels but as interactive spaces that encourage commitment, feedback, and habit formation (Khan & Khaki, 2025). By addressing both psychological and structural barriers, tourism stakeholders can more effectively bridge the gap between sustainability awareness and actual behaviour, particularly among Generation Z travellers in emerging destinations.

Conclusions

This study examined behavioural innovation in sustainable tourism by analysing the interaction between internal normative mechanisms and social–digital influences among Generation Z tourists in Ho Chi Minh

City. By integrating the Normative Activation Model, the Theory of Planned Behavior, and Social Norm Theory, the study provides a comprehensive framework for understanding how sustainable tourism behaviour is formed, reinforced, and constrained in contemporary tourism contexts. The findings demonstrate that sustainable tourism behaviour among Generation Z is primarily driven by internalised moral mechanisms, particularly awareness of consequences, ascription of responsibility, and personal norms. While awareness of sustainability issues represents an important prerequisite, it is insufficient on its own to generate consistent behavioural change. Behavioural innovation emerges when responsibility is internalised and translated into personal moral obligations that guide action. Among the internal drivers, ascription of responsibility was identified as the strongest predictor of sustainable tourism behaviour, highlighting its critical role in transforming sustainability awareness into concrete behavioural outcomes. In addition, the results reveal the supportive but secondary role of social and digital innovation. Social media engagement and online community involvement contribute positively to sustainable tourism behaviour; however, their effects are more moderate when compared to internal normative factors. Subjective norms were found to influence behaviour indirectly through personal norms, suggesting that social pressure must be internalised to become behaviourally effective. These findings confirm the persistence of the attitude–behaviour gap and indicate that digital exposure alone is insufficient to drive sustained behavioural change without complementary internal motivation. An examination of the behavioural dimensions further indicates that Generation Z tourists are most responsive to pro-environmental behaviour, followed by pro-social and pro-cultural behaviours, while pro-economic behaviour plays a comparatively weaker role. This pattern reflects heightened environmental sensitivity among young travellers and underscores the importance of communicating the broader social, cultural, and economic benefits of sustainable tourism practices to local communities. Although this study is based on Vietnam, the findings offer transferable insights for sustainable tourism management in emerging and developing destinations. By highlighting the central role of internalised responsibility and moral commitment, the study suggests that effective sustainability strategies should move beyond awareness-raising and digital communication alone, and instead foster deeper normative engagement among young tourists.

This study makes several theoretical contributions to the tourism and innovation literature. First, it advances the conceptualisation of behavioural innovation as a critical dimension of sustainable tourism, extending innovation research beyond predominantly technological and managerial perspectives. Second, by integrating established behavioural theories with social and digital contexts, the study provides empirical evidence on how normative mechanisms operate within digitally mediated tourism environments. Third, the findings contribute to a deeper understanding of Generation Z as a key actor in sustainable tourism transitions, particularly within emerging and developing destinations. From a practical perspective, the findings suggest that tourism policymakers and practitioners should prioritise interventions that strengthen personal responsibility and moral commitment, rather than relying solely on informational campaigns or social pressure. Educational initiatives, value-based messaging, and reflective communication strategies can facilitate the transformation of sustainability awareness into internalised personal norms. In addition, digital platforms and online communities should be leveraged as interactive spaces that encourage engagement, feedback, and habit formation, rather than as passive channels for information dissemination. Furthermore, integrating behavioural interventions with economic incentives, policy support, and infrastructure improvements may help reduce practical barriers to sustainable tourism behaviour. Such an integrated approach is particularly relevant for engaging Generation Z tourists, whose behaviour is shaped by both ethical concerns and contextual constraints.

Despite its contributions, this study has several limitations. The cross-sectional research design limits causal inference, and future studies may employ longitudinal or experimental approaches to examine behavioural change over time. The focus on Generation Z tourists in a single urban destination may also constrain the generalisability of the findings, indicating the need for comparative studies across destinations and cultural contexts. Future research could further explore the role of additional psychological factors, such as habit formation, perceived behavioural control, and emotional engagement, in shaping sustainable tourism behaviour. Moreover, qualitative or mixed-method approaches may provide deeper insights into how social and digital innovations are experienced and internalised by tourists in different destination settings.

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