



Caught between comfort and conscience: Hotel guests' ambivalence towards sustainability practices during leisure stay and their customer citizenship behavior

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ABSTRACT

Leisure travelers often have hedonic goals that may conflict with the perceived sacrifices associated with hotels' sustainability practices, and may feel ambivalent towards participating in it. This study examines the relationships between hotel sustainability practices, ambivalence toward sustainability practices, and guests' customer citizenship behaviors (advocacy, feedback, helping, and tolerance) among 389 participants from Indonesia and Malaysia. Ambivalence is analyzed as a moderating factor, where it weakens the positive effects of sustainability practices on feedback and helping behavior of the Malaysian group, and also weakens tolerance of the Indonesian group. At the same time, it strengthens the positive impact of sustainability practices on feedback of the Indonesian group. Open-ended responses found guests prioritized comfort, services, physical environment, facilities, and cleanliness when considering hotels' eco-friendly measures. Findings can inform managerial practices to effectively capitalize on sustainability initiatives to enhance guests' citizenship behavior.

1. Introduction and rationale for study

There is a need to expedite sustainability research within the travel and tourism sector to promote environmental well-being and accelerate progress towards achieving the Sustainable Development Goals (Rasoolimanesh et al., 2023). The urgency is resonated in corporate reports that found leisure lodging to be the top five asset classes to leave the highest carbon footprints, exceeding sectors like healthcare and retail properties (CBRE Research, 2023). Geographically, the Cornell Hotel Sustainability Benchmarking report found that hotels in Asia have the highest average ecological footprint per room per night, surpassing hotels in other regions (Circular Ecology, 2023). Within the context of Malaysia and Indonesia lodging industry, both countries were classified as having higher levels of carbon emissions per room per night (Circular Ecology, 2023). Amidst heightened environmental concerns, properties that embrace sustainability practices can tap into the growing demand for eco-friendly management. By doing so, they have the potential to attract a lucrative customer segment, enhance brand image, or offer premium prices for their services (Nelson et al., 2021). The adoption of sustainability practices varies in the sector and also among countries,

with limited representation from developing economies particularly in Asia (Bittner et al., 2024; Langgat et al., 2023). Sustainable hospitality in this region remains an emerging trend, with disparate levels of implementation (Khan et al., 2024; Nelson et al., 2021).

It is possible that higher green initiatives on the part of hotels do not necessarily lead to positive behavioral outcomes. A recent report surveyed 31,550 travelers across 34 countries including Asia, revealed that despite a majority (83 %) value sustainable travel, some (28 %) experience climate fatigue from constant emphasis on climate messages (Global Sustainable Tourism Council, 2024). The hedonic nature of travel can also bring about conflicting attitudes, especially when travelers shift from their everyday routines at home to the indulgent mindset of being on vacation (Khan et al., 2024). This is evidenced by research which found a mis-match of pro-environmental attitudes and behaviors when travelers do not align with their environmental commitments during vacation (Dolnicar et al., 2017). There is a presumption that being eco-friendly often involves inconvenience, discomfort and frugality, which can conflict with the pleasure-seeking nature of travel (Chua and Han, 2022). Such conflict has resulted in attitude-intention gaps within pro-environmental research, where individuals'

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environmentally friendly intention is not congruent with their behaviors (Khan et al., 2024; Van Gent et al., 2024). One emerging phenomenon that explains this gap is ambivalence, which leads individuals to be less certain in performing a particular environmental-friendly behavior (Van Gent et al., 2024; Wang et al., 2021). Ambivalence is characterized by the co-existence of positive and negative feelings towards an attitude target (Priester and Petty, 1996; Cornelis et al., 2020). Ambivalence is different from cognitive dissonance, as it signifies *pre-decisional conflict* from simultaneously holding opposing evaluations. In contrast, cognitive dissonance represents *post-decisional conflict*, arising when behavior contradicts attitudes (Van Gent et al., 2024). These concepts are similar in their expressions of inconsistencies, but the central core of ambivalence lies within simultaneous conflicting positive and negative views (Rothman et al., 2017; Melwani and Rothman, 2022). Ambivalence can result in positions that are non-committal or inaction (Cornelis et al., 2020; Van Harreveld et al., 2015), which is especially relevant in the context of environmental sustainability (Mouro et al., 2021; Van Gent et al., 2024). Despite the growing interest and potential of ambivalence, scholars noted that this concept remains under-theorized and underexplored in tourism and hospitality research (Hu et al., 2025; Lee et al., 2025).

Review research highlighted the need to prioritize subjective sustainability indicators such as attitudes, experiences, and perceptions, especially among tourists who remain the least investigated stakeholders compared to residents, management, and governments (Rasoolimanesh et al., 2023). Scholars also called for more attention to extra-role behaviors such as customer citizenship behavior, as existing research on hotel sustainability predominantly focuses on customers' in-role behaviors (e.g., visit intention, satisfaction, trust, loyalty) (Tran et al., 2024). Customer citizenship behavior (CCB) is highly valuable to service environments characterized by variability, where each service encounter is unique and challenging to standardize with differing guest expectations (Groth et al., 2004). Hotels can gain competitive advantage with CCB when its customers engage in behaviors that are "for" the organization. To this end, the present study examines hotel guests' CCB and ambivalence in the context of sustainability practices. By focusing on customer citizenship behavior (CCB) and consumer ambivalence, the study directly addresses a pervasive "green gap" with ambivalence towards environmental practices. This is an under-examined construct within hotel environmental efforts, which causes individuals' environmentally friendly intention being not congruent with their behaviors. This study also moves beyond positive or negative attitude measurements by capturing the nuanced, internal conflict that influences hotel guests' decision-making. This is particularly relevant for mitigating the urgent ecological impact of hotels in Asia.

1.1. Rationale for cross-national research

There are very few studies that compare the effect of subjective ambivalence across countries (Luttrell et al., 2022). Research has shown that ambivalence is more pliable to cultural background. One of the reasons is due to dialectical thinking, a trait more deeply rooted in Asian cultures than Western ones, and characterized by a greater tolerance for apparent contradictions with a lower need to resolve inconsistency (Luttrell et al., 2022; Ng et al., 2012). Individuals with higher dialectical thinking are more likely to develop attitude ambivalence, as they embrace inconsistency brought about when faced with conflicting attributes (Akhtar et al., 2019; Ng et al., 2012). Hence, the present study set in an Asian context may be more susceptible to ambivalence. Investigation can offer valuable contributions to the consumer market segment of hospitality, particularly for properties operating in different cultural contexts.

In terms of CCB, scholars suggested that cultural variations might lead to differential impacts, and emphasized the need for cross-cultural comparison (Bakir et al., 2024; Mitrega et al., 2022). Chan et al. (2009) challenged the assumption that Asian consumers are more tolerant of

service failures than Western consumers, and found tolerance is only salient in the absence of other customers. Furthermore, Asian customers might not view helping behavior positively, as they perceive lowered satisfaction due to embarrassment and concerns about losing face associated with receiving help (Kim and Yi, 2017). More recently, Bakir et al. (2024) investigated samples from Turkey and the UK, and found cultural distinction in the effects of guest satisfaction on advocacy and helping behavior. Most studies that compared CCB were based on either western - eastern dichotomy (Mitrega et al., 2022; van Tonder et al., 2020), but there may be variances in CCB that exist between regional countries (Izogo et al., 2020). Although Indonesia and Malaysia are in the same region, differences in government policy, industry practices, and culture can shape distinct consumer attitudes towards CBB.

1.2. Contextualizing hotel green practices in Indonesian and Malaysia

The Indonesian government has established a foundational framework for hotel sustainability through various laws, policies, and initiatives. Aligning with the nation's National Development Plan (2005–2025), key regulations include the Tourism Act, law no. 10/2009 and the Environmental Protection and Management Law no. 32/2009, which underpin the nation's commitment to conserving its natural, economic, social, and cultural environment (Alkotdriyah, 2024; Bittner et al., 2024). Specific to the tourism sector, the government has updated its sustainable tourism guidelines, replacing Guidelines for Sustainable Tourism Destinations No. 14/2016 with No. 9/2021 (BPK Regulation Database, 2021). Both regulations acknowledge hotels' importance to the tourism ecosystem, and emphasize alignment with international benchmarks promoted by the Global Sustainable Tourism Council (GSTC) and the United Nations World Tourism Organization (UNWTO). The 2021 update specifically aims to enhance the integration of local traditions and wisdom in managing natural and cultural attractions, further align with global sustainable tourism standards, and place a strong emphasis on CHSE (Cleanliness, Health, Safety, and Environment) in light of COVID-19 pandemic (Jaringan Dokumentasi dan Informasi Hukum [Legal Documentation and Information Network], 2022).

The concept of "green hotels" and their associated practices in Indonesia faces limited awareness among the local community and tourists, particularly domestic travelers, who do not fully understand its definition or criteria (Yuniati, 2021). Despite research showing consumers generally favor environmental considerations, research has found their support is often contingent on convenience, comfort, and price (Lemy et al., 2019). Awareness of broader concepts like the Circular Economy is also found to be "comparably low" in Indonesian hospitality sector, with a general lack of understanding and mentality among local people (Bittner et al., 2024). This is echoed by hotel operators who observed guests' overconsumption of electricity and water, which can hinder sustainability efforts (Damaianti et al., 2023).

In Malaysia, the 12th Malaysian Plan specifically champions sustainable consumption and production in tourism (Ministry of Economy, 2021). The plan advocates for the adoption of green labels to attract "green tourists" and reinforce Malaysia's position as a preferred eco-friendly destination. Complementing this, the National Tourism Policy 2020 – 2030 (Ministry of Tourism, Arts and Culture [MOTAC], 2020a) aims to transform Malaysia's tourism industry through public-private partnerships and digitalization, fostering innovation and competitiveness for sustainable and inclusive development. This policy is aligned with the United Nations Sustainable Development Goals (UNSDGs) and is founded on principles of competitiveness, sustainability, and inclusivity (Ministry of Tourism, Arts and Culture [MOTAC], 2020a). To align with regional practices, the ministry of tourism has also formally adopted the ASEAN Green Hotel Standard to promote environmentally responsible hotel operations (Ministry of Tourism, Arts and Culture [MOTAC], 2020b).

While policy direction is progressive, there is a low rate of green

hotel certification in Malaysia and properties still face significant challenges in comprehensive adoption of sustainable practices due to issues related to regulatory enforcement, public demand, financial constraints, and a lack of expertise (Langgat, 2019; Rassiah et al., 2022). Empirical studies further suggest that most hotels focus on basic environmental management practices, such as energy conservation, water-saving, and the use of natural vegetation, while more advanced measures like staff training and collaboration with local partners are less frequently implemented (Rassiah, 2024).

2. Theoretical considerations and hypotheses development

The study is based on the theoretical lens of Social Exchange Theory (SET) and the Stimulus-Organism-Response (S-O-R). SET postulates that individuals will act rationally to maximize their rewards and minimize their costs in a particular exchange, and behavior is contingent upon the outcomes of the exchange (Homans, 1958). Exchanges can occur between different interacting entities, and CCB literature views the interactions between companies and customers as a type of social exchange (Croppanzano and Mitchell, 2005). Based upon the philosophy of reciprocity, the theory has been widely employed in tourism and hospitality research (Nunkoo, 2016; Rasoolimanesh et al., 2015; Yim, 2021). The exchanges within the service centric hospitality industry may be more intense, when guests stay and receive services throughout their hotel stay, compared to visits to retail stores. Scholars had advocated for a more comprehensive application of SET that encompassed not only the reciprocity rule of exchange but also rationality, altruism, competition, group gain, and status consistency (Croppanzano and Mitchell, 2005; Rasoolimanesh et al., 2015). Rationality in social exchange is about using logical reasoning to find the most effective ways to achieve desired outcomes. Altruism involves selflessly benefiting others without expecting a return, while competition is its opposite, aiming to disadvantage others even if it harms oneself (Meeker, 1971). Group gains refer to individuals profiting from collectively amassed benefits, while status consistency involves the benefits expected from group membership, which can influence perceptions of an exchange.

Research has suggested other concepts to account for the equilibrium between costs and rewards in SET which may extend beyond rational or reciprocity explanations (Nunkoo, 2016; Yim et al., 2021). More recently, theoretical discussions suggest allowing for an element of *duality* that provides for positive and negative perspectives, and introduce ambivalence as a potential concept for its dual nature (Melwani and Rothman, 2022). This is in-line with the call to address the issues in SET that assume bipolarity which considers negative inclination of constructs as merely the absence of a positive tendency (Croppanzano et al., 2017), suggesting the need for situations of duality where both positive and negative views can exist simultaneously from the same exchange. This theoretical proposition was recently demonstrated with a multi-method study of experiment and survey, where ambivalence is found significant to employees' citizenship behavior (Melwani and Rothman, 2022). Recent literature had supported the application of ambivalence with SET in MICE (Meetings, Incentives, Conferences, Exhibitions/Events) research and organizational research (Chen et al., 2019; Lee et al., 2019), and this study attempts to test the application of this concept in consumer citizenship contextualized within hospitality research.

The S-O-R framework, rooted in environmental psychology, posits that external stimuli (S) in an environment directly influence the internal affective and cognitive state of a person (O) which then leads to a behavioral response (R) (Mehrabian and Russell, 1974). The central premise of the model is that individuals' behavior is not a passive reaction but an active response to stimuli, intervening their internal psychological processes. Environmental practices can operate as stimuli that affect internal states of customers, while CCB has been investigated as the corresponding behavioral response (Aljarah, 2020; Hameed et al., 2022). Ambivalence has been explained as the organism component,

where mixed feelings and uncertainty towards dining out during pandemic can lead to the abandonment of luxury restaurant reservations (Peng et al., 2021). Research has refined the traditional S-O-R framework to better capture the dynamic and complex nature of consumer behavior. Jacoby (2022) suggested that the sequential effect of S-O-R may hinder researchers from examine important phenomena and dynamic relations between these components, and suggested these elements to be overlapping circles forming a Venn diagram. Evidence from hospitality research supports this proposition with an experimental study by Bigne et al. (2020), where participants were exposed to conflicting TripAdvisor reviews. Results from this study demonstrated the configural nature of the S-O-R components, emphasizing the inter-relationships among stimuli, the organism's internal states, and responses that transcend a sequential cause-and-effect interpretation. Kim et al. (2021) also highlighted components of S-O-R can have "dual-dimensionality", where they found perceived service quality to function as both stimulus and organism to influence response, demonstrating permeable relationships between S-O-R. Ambivalence with its dual nature that allows for conflicting situations will be appropriate to be examined as the Organism component. Building on this, the present study investigates ambivalence (organism) as a possible moderating variable that interacts with sustainable practices as environmental cues (stimulus) to influence guests' responses in the form of CCB.

2.1. Hotel sustainability practices and CCB

Environmental sustainability practices within hotels entail activities such as recycling, reuse of resources, water and energy conservation, creation of green spaces, eco-friendly transportation, and waste management (Moise and Gil-Saura; Merli et al., 2019). These practices potentially add value to hospitality establishments by enhancing customers' green trust, hotel image, guests' loyalty, satisfaction, and perceived hotel performance (Langgat et al., 2023; Merli et al., 2019; Moise and Gil-Saura; Ruiz-Molina et al., 2023). Beyond benefiting the hotel itself, the positive effects can also ripple to surrounding communities with reduced carbon emissions, conservation of local resources and heightened awareness of local culture (Han et al., 2020; Langgat et al., 2023). From the customers' perspective, there are growing expectations driven by the desire for both an enhanced guest experience and a positive environmental impact (Tran et al., 2024; Yang et al., 2023). Guests directly experience green practices within a hotel compared to abstract green certifications, which can be difficult to independently verify. These practices act as external stimuli for CCB, when guests verify during their stay or exchange opinions with social circle (Ruiz-Molina et al., 2023; Wang et al., 2024).

CCB can be viewed as customers' extra-role behaviors which is not expected of them, but can potentially benefit organizations by improving the quality of service and facilitate effective functioning (Groth et al., 2004). The theoretical underpinning of CCB suggests that customers can be considered and managed as partial employees to bring about positive outcomes for businesses (Groth et al., 2004). Yi and Gong (2013) conceptualized CCB with four dimensions – *feedback* refers to information given by customers for improvement, *advocacy* directs at recommending the organization to others, *helping* focus on aids given to other customers who need assistance, and *tolerance* refers to being understanding when services fall short of expectations. The literature suggests that more insights of these dimensions are still needed from travelers (Abdou et al., 2022; Assiouras et al., 2019).

SET posits that exchange partners such as customers and firms possess something that each other values, and exchange by one partner may induce obligation in the other to reciprocate with behavioral response in form of CCB (Assiouras et al., 2019). Previous research has examined corporate social responsibility as a benefit that customers value, which can be reciprocated with trust (Aljarah, 2020). In a similar vein, the present study also positions hotel sustainability practices as an environmental benefit that guests value, which can elicit reciprocatory

behavior in CCB. Here, the environmental initiative is a benefit provided by the firm, leading to customer reciprocity, rather than an exchange with the environment itself. Hotel sustainable practices have been found to be significant stimuli to guests, and recent literature has also demonstrated its potential association with CCB (Abdou et al., 2022; Tran et al., 2024; Wang et al., 2024). However, these studies have investigated CCB as a single construct or higher order construct. The present study separately investigates the four dimensions of CCB to reveal their individual outcomes. Hence, the following hypotheses:

H1. Hotel environmental sustainability practices have positive effects on CCB dimensions of H1a advocacy, H1b feedback, H1c helping, and H1d tolerance.

2.2. Ambivalence towards hotel sustainability practices

Ambivalence is described as the degree to which an individual's reactions to an attitude object are "evaluatively mixed that both positive (favorable) and negative (unfavorable) elements are included" (Wegener et al., 1995, p. 460). Scholars have noted ambivalence can manifest as an inherent predisposition, where some individuals can exhibit heightened susceptibility to experiencing ambivalence compared to others (Rothman et al., 2017; Thompson and Zanna, 1995). There are two types of ambivalence: Objective ambivalence directs at mixed feelings that an individual may *unconsciously* have towards an attitude object, while subjective ambivalence involves a *conscious* awareness of conflicting positive and negative attitudes (Cornelis et al., 2020; Priester and Petty, 1996; Thompson et al., 1995; Van Gent et al., 2024). The present study examines *subjective ambivalence*, considered a sense of confusion, lower certainty, and discomfort brought about by the inconsistency caused by conflicting views of a target (Chang, 2011; Conner et al., 2003; Priester and Petty, 1996). Within the sustainable consumption context, Ojala (2008) had earlier established such phenomenon with opposing positive ("recycling is meaningful") and negative ("recycling is a waste of time") perceptions. Usually, negative evaluations are more likely to explain ambivalence, where it is weighted more compared to positive evaluations (Chang, 2011). This opposing evaluation inherent in ambivalence was shown to significantly impact consumers' intention for low carbon tourism (Horng and Liaw, 2018), plant-based meat alternatives (Ye and Mattila, 2021), purchase intention for new energy vehicles (Zhang et al., 2023), eco-friendly household products (Wang et al., 2021), and also booking intention for green hotel stays (Chen and Peng, 2023). Consequently, ambivalence can influence behavior when the discomfort or uncertainty triggers individuals to resolve internal inconsistencies (Wang et al., 2021; Van Gent et al., 2024).

2.3. Moderating role of ambivalence

Compared to univalent attitudes which have a clear, consistent positive or negative valence, ambivalence with its opposing and polarized nature is viewed as a weaker attitude due to lower certainty, making individuals more susceptible to persuasion (Armitage and Conner, 2000; Boukamcha, 2017; Cornelis et al., 2020). Based on this, scholars had proposed ambivalence as a moderator which can weaken the link between antecedent and outcome of sustainability behavior (Cornelis et al., 2020; Puteri et al., 2022; Van Gent et al., 2024). Studies have supported this weakening effect of ambivalence on behavioral outcomes such as climate-friendly food consumption (Jylhä et al., 2023) and healthy eating behaviors (Conner et al., 2003). This effect can be more profound in the presence of conflicting situations. For example, a recent study found employees with higher levels of ambivalence towards organizational energy conservation measures were less likely to engage in pro-environmental behaviors when faced with conflicting social norms (Mouro et al., 2021). Guests traveling for leisure may also experience conflict, when their hedonic motivation for indulgence conflicts

with environmental behavior usually associated with restraint (Chua and Han, 2022; Ruiz-Molina et al., 2023). In the present study, hotel guests may face such conflict between environmentalism and consumerism, where there is a trade-off between environmental benefits and fulfilling hedonic goals. Based on the potential interaction discussed and precedence literature, it would be meaningful to test ambivalence as a moderator that possibly affects CCB. Customers, after all, are not actual citizens and their "citizenship" may be affected by factors that can facilitate or impede it (Mitrega et al., 2022). To date and to the best knowledge of the researcher, existing research has only demonstrated ambivalence's moderating effect on one citizenship behavior - helping (Melwani and Rothman, 2022), and the present study brings the hypothesis further by testing four dimensions of CCB.

H2. The positive relationship between sustainability practices and CCB dimensions of H2a advocacy, H2b feedback, H2c helping and H2d tolerance will be weaker when ambivalence is higher.

3. Measures and methods

3.1. Measures

The study adapted established instruments to measure the constructs. Hotel sustainability practices were measured with a 10-item scale by Merli et al. (2019), which has been validated as a single dimension scale with good reliability and validity (Wang et al., 2024). The sustainable practices examined were directed at environmental conservation such as water and energy saving, avoidance of single use products, waste management, the use of environmental-friendly products, and provision of information on environment conservation (Merli et al., 2019). Measures for ambivalence towards sustainability were adopted from Chang's (2011) 5-item scale which was originally directed at ambivalence towards green products. Yi and Gong (2013) measures for CCB were adapted to measure four dimensions of feedback (3 items), helping (4 items), tolerance (3 items), and advocacy (3 items). Participants indicated on a seven-option Likert scale, the extent to which they strongly agreed/ disagreed with items based on hotel-stay context. Some examples of the items are "The hotel tries to avoid disposable or single-use products" (sustainability practices), and "I have strong mixed emotions both for and against hotels' sustainability practices" (ambivalence towards sustainability practices). The example of the four dimensions of customer citizen behavior were "When I receive good service from the employee, I'll give good review or comment about it" (feedback), "I help other customers if they seem to have problems" (helping), "If service is not delivered as expected by the hotel, I would be willing to put up with it" (tolerance), and "I said positive things about the hotel to others" (advocacy). An open-prompt question was included to identify factors that respondents considered important when a hotel implements sustainability practices. The questionnaire was translated to the Indonesian Language for the Indonesian sample with back translation (Brislin, 1970), while the Malaysian sample used an English Language instrument as the language is widely spoken in the country and used in Malaysian hospitality research (Ahn and Kwon, 2020). Both questionnaires were pre-tested locally to identify and simplify ambiguities to enhance clarity and understanding.

3.2. Participants and procedures

As reported earlier, previous studies have noted low awareness of hotels' environmental practices and green products, as well as low certification of green hotels in Malaysians and Indonesians (Damaianti et al., 2023; Langkat, 2019; Rassiah et al., 2022; Yuniaty, 2021). Hence, is it necessary to employ purposive snowball sampling to recruit respondents based on these qualifying factors - they are at least 18 years old, domestic tourists, have had experience staying in a hotel for the past six months for leisure purposes (to minimize recall bias), and the hotel

has eco-friendly measures. To ensure that the correct respondents are included, questions to these criteria were also included in the survey form as a filtering measure. An online survey form was distributed via a snowball sampling method, allowing eligible respondents to share the link with others who also met the criteria. Additionally, respondents were informed about the participation criteria, assured of anonymity, and the right to withdraw from the survey any time through the participant information sheet. An initial sample of 422 responses were collected, where a final sample of 389 responses (179 Indonesians and 210 Malaysians) was achieved after data screening which included removal of unqualified respondents, outliers, and unengaged straight-line responses. Sample sizes of both countries fulfilled the statistical power of 90 %, α level of 0.05, with medium effect size (Cohen, 1988). In terms of respondent profile, the Indonesian sample consisted of 58.1 % females and 41.9 % males with a mean age of 30.92 (SD = 9.88). A majority possessed tertiary education qualifications at the diploma/bachelor level (74.3 %), and post-graduate level (8.4 %). The Malaysian sample was characterized by 57.1 % males and 42.9 % females. The average age is lower than the Indonesian sample at 25.33 years old (SD = 10.34). Similarly, a majority has higher education qualifications at the diploma/bachelor level (82.0 %), and post-graduate level (2.9 %).

4. Data analysis

The data were assessed for normality using Mardia's multivariate skewness and kurtosis test with an online software tool (<https://webpower.psychstat.org/wiki/>). The software indicated a departure from normality, as evidenced by the multivariate skewness ($\beta = 9.23$, $p < 0.001$) and kurtosis ($\beta = 65.82$, $p < 0.001$). This would not be a concern as the study used a non-parametric software SmartPLS 4.0 (Ringle et al., 2024) to test hypotheses with Partial Least Squares Structural Equation (PLS-SEM) modelling, bootstrapping of 10,000 resamples. Since self-reporting data were obtained from single source and common method variance can be a threat to validity of findings, procedural and statistical remedies were employed. Procedurally, the participant information sheet minimized evaluation apprehension by assuring respondents' anonymity, that results are aggregated in analysis, and will not identify them personally (Podsakoff et al., 2024). Additionally, the instrument was pre-tested to ensure a match of respondents' evaluation abilities and experiences in the research context (Podsakoff et al., 2024). Statistically, the models were subject to full collinearity test before hypothesis testing where the highest VIF were 1.515 (Malaysian model) and 1.358 (Indonesian model). VIF above 3.3 would suggest contamination of common method bias (CMB), hence full collinearity tests suggest that both models can be considered free of CMB (Kock, 2015). Hence, the models proceeded to measurement and

structural analysis. The open-prompt question was analyzed with word frequency query using NVIVO 15 to identify the most frequently mentioned areas of concern.

4.1. Assessment of measurement model

In establishing the measurement model, internal consistency of the constructs was evaluated with composite reliability (CR), convergent validity was assessed with average variance extracted (AVE), while discriminant validity was evaluated with Heterotrait-Monotrait (HTMT) criterion (Table 1) and inspection of cross-loadings (Table 2). The indices fulfilled the acceptable levels where $CR > 0.70$, AVE indices > 0.50 , and HTMT ratios below 0.85 demonstrating that the constructs were distinct from one another (Hair et al., 2022). Indicator loading of the construct indicators was inspected, where indicators with low loadings were removed, as the removal was shown to increase AVE and reliability (Hair et al., 2022). With this, five items that measure sustainability practices (3 items), feedback (1 item), and tolerance (1 item) were removed from both models.

4.2. Assessment of structural model

Before structural model analysis, multicollinearity was assessed with variance inflation factor (VIF) and the highest value was 1.515, suggesting collinearity is not a concern. Hypothesized relationships are tested based on significance of $p < 0.05$. In testing H1, Indonesian sample reported significant effects of sustainability practices on advocacy ($\beta = 0.205$, $p < 0.05$), feedback ($\beta = 0.129$, $p < 0.05$), and tolerance ($\beta = 0.238$, $p < 0.05$). Malaysian sample reported significant effects of sustainability practices on feedback ($\beta = 0.512$, $p < 0.05$), helping ($\beta = 0.157$, $p < 0.05$), and tolerance ($\beta = 0.112$, $p < 0.05$).

H2 proposed that ambivalence would weaken the positive effects of sustainability practices on the four CCB dimensions. Besides significance of hypotheses, results were also interpreted with examination of simple slopes. There were differentiated results from both samples. In the Indonesian sample, ambivalence significantly moderated the positive effect of sustainability on tolerance ($\beta = -0.152$, $p < 0.05$) and feedback ($\beta = 0.120$, $p < 0.05$). For tolerance, higher levels of ambivalence *weakened* the positive effect of sustainability practices, indicating that ambivalent guests were less likely to tolerate when service delivery is short of expectations. Interestingly, the opposite was observed for feedback, where higher ambivalence actually *strengthened* the effect of sustainability practices. This suggests that individuals experiencing greater ambivalence may be more inclined to provide feedback, possibly as a means of resolving their internal conflict or uncertainty about the practices. The differentiated effects support the *dual* nature of ambivalence. From the Malaysian sample, ambivalence significantly moderated

Table 1
Quality criteria for measurement model.

	CR	AVE	HTMT _{0.85}				
			Advo	Amb	Feedback	Help	Sus prac
<i>Indonesia</i>							
Advo	0.892	0.733					
Amb	0.912	0.675	0.687				
Feedback	0.925	0.861	0.697	0.552			
Helping	0.899	0.691	0.504	0.511	0.696		
Sus prac	0.892	0.545	0.482	0.472	0.341	0.248	
Tolerance	0.813	0.686	0.353	0.330	0.298	0.357	0.400
<i>Malaysia</i>							
Advo	0.931	0.819					
Amb	0.926	0.715	0.637				
Feedback	0.893	0.890	0.725	0.644			
Helping	0.890	0.671	0.833	0.666	0.658		
Sus prac	0.888	0.533	0.455	0.616	0.837	0.511	
Tolerance	0.913	0.840	0.767	0.868	0.678	0.699	0.589

Note: Advo – advocacy; Amb – ambivalence; Sus prac – sustainability practices

Table 2

Cross loading for measurement items of Indonesian and Malaysian models.

Items	Advocacy		Ambivalent		Feedback		Helping		Sus prac		Tolerance	
	Ind	Mal	Ind	Mal	Ind	Mal	Ind	Mal	Ind	Mal	Ind	Mal
AD1	0.878	0.919	-0.612	-0.504	0.585	0.337	0.379	0.672	0.338	0.359	0.177	0.553
AD2	0.833	0.933	-0.449	-0.514	0.409	0.318	0.310	0.687	0.344	0.323	0.237	0.552
AD3	0.857	0.862	-0.445	-0.542	0.491	0.436	0.409	0.610	0.372	0.422	0.198	0.661
Am1	-0.460	-0.379	0.860	0.785	-0.362	-0.359	-0.372	-0.384	-0.317	-0.356	-0.243	-0.544
Am2	-0.496	-0.502	0.819	0.901	-0.415	-0.503	-0.361	-0.536	-0.335	-0.501	-0.141	-0.641
Am3	-0.560	-0.525	0.803	0.906	-0.415	-0.539	-0.343	-0.508	-0.373	-0.519	-0.217	-0.682
Am4	-0.411	-0.466	0.803	0.826	-0.393	-0.379	-0.441	-0.499	-0.305	-0.394	-0.097	-0.580
Am5	-0.509	-0.539	0.821	0.802	-0.366	-0.486	-0.340	-0.555	-0.325	-0.535	-0.178	-0.685
FB2	0.531	0.421	-0.424	-0.532	0.919	0.927	0.555	0.417	0.222	0.654	0.166	0.457
FB3	0.556	0.341	-0.458	-0.487	0.936	0.943	0.526	0.351	0.318	0.761	0.197	0.407
H1	0.361	0.667	-0.401	-0.570	0.439	0.448	0.841	0.850	0.120	0.445	0.246	0.531
H2	0.365	0.574	-0.393	-0.519	0.560	0.344	0.881	0.851	0.192	0.403	0.206	0.525
H3	0.412	0.638	-0.426	-0.443	0.486	0.297	0.887	0.847	0.252	0.392	0.204	0.514
H4	0.265	0.473	-0.245	-0.376	0.465	0.201	0.704	0.720	0.121	0.237	0.099	0.320
SP1	0.265	0.235	-0.312	-0.345	0.228	0.533	0.230	0.285	0.641	0.671	0.167	0.258
SP10	0.273	0.343	-0.351	-0.487	0.222	0.538	0.173	0.413	0.828	0.728	0.160	0.422
SP2	0.265	0.241	-0.335	-0.298	0.149	0.547	0.145	0.295	0.657	0.726	0.116	0.337
SP4	0.323	0.193	-0.198	-0.419	0.214	0.533	0.153	0.164	0.753	0.686	0.310	0.335
SP5	0.423	0.315	-0.304	-0.420	0.258	0.558	0.155	0.278	0.847	0.810	0.276	0.430
SP6	0.266	0.321	-0.214	-0.365	0.226	0.508	0.081	0.284	0.606	0.721	0.165	0.321
SP7	0.251	0.393	-0.399	-0.465	0.204	0.656	0.152	0.549	0.797	0.762	0.267	0.404
T1	0.190	0.598	-0.270	-0.710	0.203	0.418	0.307	0.563	0.154	0.471	0.777	0.923
T2	0.201	0.601	-0.109	-0.655	0.134	0.426	0.112	0.513	0.314	0.439	0.877	0.909

the positive effect of sustainability on feedback ($\beta = -0.155$, $p < 0.05$) and helping ($\beta = -0.157$, $p < 0.05$). This suggests higher ambivalence towards sustainability practices *weakened* the positive effects of sustainability practices on both feedback and helping behaviors. Results imply guests may be less participative in providing feedback and hesitant to help other guests when they are ambivalent. The potential of ambivalence to weaken and strengthen relationships supports its *dual* nature, brought about by the presence of opposing positive and negative valences within a psychological state towards the same target of sustainability practices.

In terms of effect sizes, the study employed classification criteria from [Cohen \(1988\)](#) for direct effect (0.02-small, 0.15-medium, and 0.35 – large), and [Kenny \(2018\)](#) for moderation effect (0.005-small, 0.010-medium, and 0.025-large). Noteworthy effect sizes were obtained from the Malaysian sample for the direct effect of sustainability practices on feedback ($\beta^2 = 0.306$), and the sustainability practices x ambivalence interactions on feedback ($\beta^2 = 0.048$) and helping ($\beta^2 = 0.039$). From the Indonesian sample, there were medium to large effect sizes for interaction effects on feedback ($\beta^2 = 0.022$) and ($\beta^2 = 0.030$). Overall, the models explain R^2 of the four CCB dimensions that ranges from 0.123 to

0.395 in the Indonesian model, and 0.359–0.568 in the Malaysian model. Results for hypotheses testing are shown in [Table 3](#), while the research models are shown in [Figs. 1 and 2](#).

4.3. Qualitative analysis

The open-prompt question was analyzed to uncover factors important to guests when hotels implement environmental sustainability practices. As the question was optional, only 220 of the 389 participants responded. A text search query was first conducted to detect the most frequently used words using NVIVO 15. Keywords with a weighted percentage of more than 0.5 % occurrences were considered and there were 15 words suggested which represented around 60 % of the data from both samples. The search of the words was grouped according to stemmed words. As shown in [Table 4](#), convergent results from both countries were observed for the most frequently mentioned words such as comfort, services, environment, facilities, and cleanliness.

5. Discussion

This study investigated the effects of hotel sustainability practices on guests' CCB dimensions of advocacy, feedback, helping, and tolerance. Ambivalence towards sustainability practices was introduced as a potential moderator of the sustainability practices - CCB relationships. A comparative analysis was conducted between Indonesian and Malaysian samples, which showed both similar and dissimilar results across the two groups. Sustainability practice was positively associated with advocacy, feedback and tolerance among Indonesians, and also with feedback, helping, and tolerance among Malaysian sample. Out of the four dimensions of CCB, sustainability practices were significant to three, supporting the notion that collectivist consumers are inclined to engage in CCB ([Aljarah, 2020](#); [Abdelmoety and Aboul-Dahab, 2022](#)). Findings supported green practices to be salient “resources” that represent hotels’ environmental commitment in SET exchanges, and also significant Stimuli in S-O-R. The positive associations resonate with scholars who suggest that guests reciprocate this goodwill with citizenship virtues ([Abdou et al., 2022](#); [Tran et al., 2024](#)).

Among the four CCB dimensions, Malaysians sample recorded substantial effect size for sustainability practice - feedback. This suggests that Malaysian respondents prefer to provide feedback to the hotel

Table 3
Testing of hypotheses.

Hypotheses	Country	B	Stand Error	t values	p values
H1a Sus prac	Indon	0.205	0.066	3.122**	0.001**
-> Advocacy	Mal	0.098	0.078	1.254	0.105
H1b Sus prac	Indon	0.129	0.069	1.876**	0.030**
-> Feedback	Mal	0.512	0.081	6.288**	0.000**
H1c Sus prac -> Helping	Indon	0.035	0.074	0.474	0.318
	Mal	0.157	0.063	2.493**	0.006**
H1d Sus prac	Indon	0.238	0.140	1.698**	0.045**
-> Tolerance	Mal	0.112	0.065	1.722**	0.043**
H2a Ambivalent x Sus	Indon	0.078	0.064	1.220	0.111
prac -> Advocacy	Mal	-0.126	0.084	1.496	0.067
H2b Ambivalent x Sus	Indon	0.120	0.070	1.712**	0.043**
prac -> Feedback	Mal	-0.155	0.068	2.268**	0.012**
H2c Ambivalent x Sus	Indon	0.005	0.074	0.072	0.471
prac -> Helping	Mal	-0.157	0.050	3.145**	0.001**
H2d Ambivalent x Sus	Indon	-0.152	0.073	2.091**	0.018**
prac -> Tolerance	Mal	-0.033	0.045	0.726	0.234

Note: sig ** t-value > 1.65, (one-tailed); p-value < 0.05

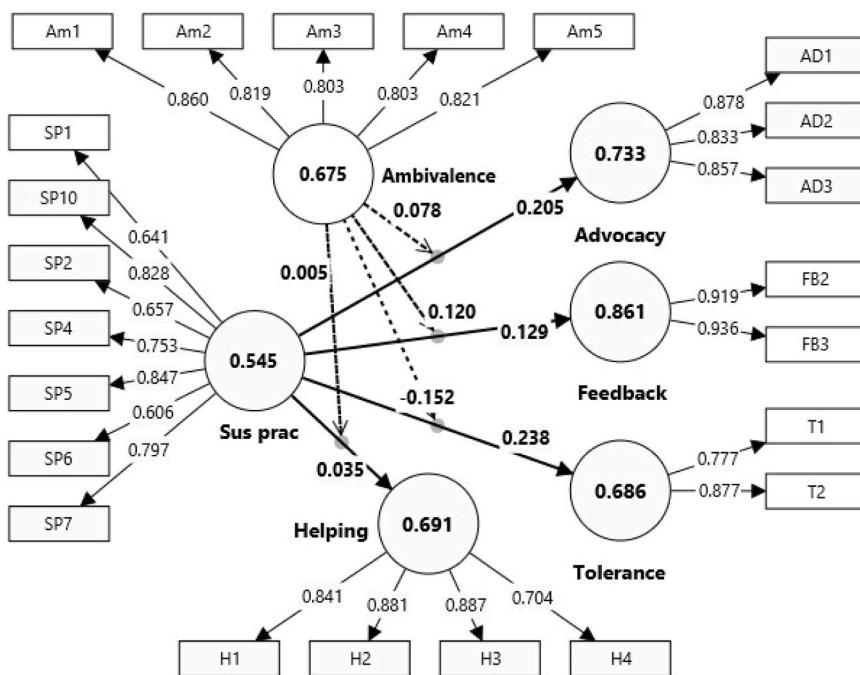


Fig. 1. Indonesian model with loadings, path coefficients and AVE.

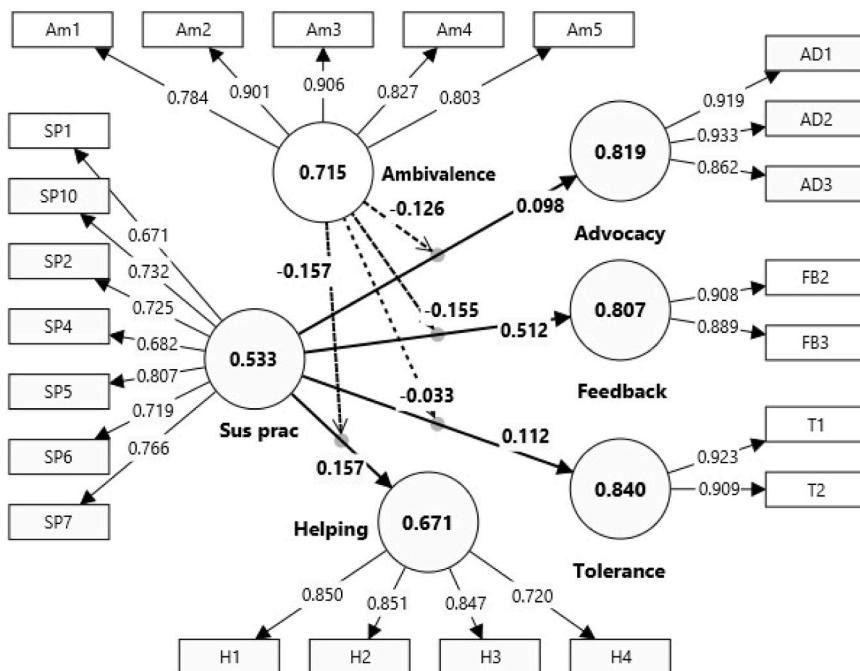


Fig. 2. Malaysian model with loadings, path coefficients and AVE.

amongst other CCB dimensions, to provide their direct input. Feedback is considered a valuable constructive contribution to organization in bridging the gap between environmental attitudes and behaviors (Van Tonder et al., 2020). Such feedback behavior also aligns with the principle of rationality of SET, as guests may be motivated by a desire to improve the services for their own benefit to maximize self-interest. With the Indonesian sample, there were small-medium effect sizes on advocacy and tolerance. This is congruent with the SET rules of group gain (Rasoolimanesh et al., 2015), as guests may feel that by advocating and supporting the hotel's efforts, they are also supporting their community's environmental well-being. The positive effects on tolerance

suggests guests are willing to sacrifice own inconvenience to bear with less ideal service delivery, as an altruistic gesture for the hotel's environmental efforts (Aljarah, 2020).

The differentiated effects observed from both countries on Advocacy and Helping dimensions can be understood from cultural standpoints. Research suggests that the advocacy dimension is more profound in individualistic societies due to a greater emphasis on self-expression and "speaking-out", while collective societies limit opinions to avoid challenging others and preserve in-group harmony (Bakir et al., 2024; Shavitt et al., 2020; Wiwoho et al., 2023). In an interesting contrast, the highly collective Indonesian sample reported a significant impact of

Table 4

Key factors to consider when hotels implement environment sustainable practices.

Indonesian			Malaysia		
Word	Count	Weighted %	Word	Count	Weighted %
comfort	66	16.3	comfortable	33	9.68
service	45	11.11	environment	32	9.38
facilities	31	7.65	clean	31	9.09
friendly	19	4.69	service	26	7.62
clean	12	2.96	price	19	5.57
hygiene	12	2.96	room	10	2.93
price	10	2.47	convenient	10	2.93
atmosphere	9	2.22	friendly	9	2.64
environment	8	1.98	facilities	8	2.35
security	8	1.98	hygiene	8	2.35
reviews	7	1.73	environmental	6	1.76
room	6	1.48	food	5	1.47
beautiful	5	1.23	reasonable	5	1.47
stay	5	1.23	safe	5	1.47
star	3	0.74	quality	4	1.17

hotel sustainable practices on advocacy. This suggests Indonesian sample value the benefits of environmental efforts and advocates for the property as they collectively see this as a group interest rather than a personal interest. The sustainability practices – helping relationship is not significant to Indonesian sample but Malaysian's. Based on existing evidence on hospitality research, helping behavior is linked to long-term orientation with a particular firm (Kim et al., 2020). Malaysia scores higher in long term orientation than Indonesia (47 vs 29) (The Culture Factor, 2025), suggesting the propensity to engage in helping fellow guests is driven by the perceived benefits of sustainable practices and the aim to foster a sustained relationship with their hotel.

In terms of responses from the open-prompt questions, guests from both groups prioritized comfort, services, physical environment, facilities, and cleanliness, which are common attributes often valued by local travelers (Lemy et al., 2019; Tan et al., 2020). As basic as it seems, findings suggest these factors may be perceived as green costs that compromise guests' hedonic goals during leisure stay, and may have pivotal roles in minimizing ambivalence and increasing citizenship likelihood.

Moderation effects. The study also uncovers boundary conditions for the relationship between sustainability practices and CCB with the moderating roles of ambivalence. Ambivalence was found to weaken the positive effects of sustainability practices on feedback and helping behavior of the Malaysian group, and also weaken tolerance of the Indonesian group. However, it strengthens the link of sustainability practices - feedback of Indonesian sample. Findings demonstrated that ambivalence can be a salient moderator, which arise from the mixed evaluation between eco-friendly conviction and the need for comfort and convenience during leisure travel. The weakening effects support the theoretical tenet that ambivalence reduces likelihood of behavior, when guests downplay the positive effects of sustainability practices as a way of coping with internal conflicts (Pauer et al., 2022; van Gent et al., 2024; Zhang et al., 2023). Such a line of account is congruent with green research that also found similar weakening interaction effects in behavior or intention (Jylhä et al., 2023; Barata and Castro, 2013). The present interaction effects suggest that guests at high levels of ambivalence are less tolerant of service failures, less participative in providing feedback, and hesitant to help others. Guests may be torn between performing eco-friendly gestures and preferring to indulge and temporarily "escape" from environmental responsibility due to personal habits or hedonic goals. Ambivalence can introduce psychological discomfort, dissonance and hesitation (Akhtar et al., 2019; Boukamcha, 2017), making it difficult for a hotel guest to rationalize the benefits of being tolerant and engaging in helping behavior. Guests are less motivated to provide feedback if they doubt the authenticity of sustainable initiatives (Nguyen and Chiu, 2023), or believe their input would not lead to improvement which is in line with SET's reciprocity rule.

In contrast, higher ambivalence was found to strengthen the sustainability practices – feedback relationship of the Indonesian sample. Research indicates that this is possible when individuals are aware of the cost-benefit ratio of a specific behavior. Higher ambivalence facilitates this state, inducing deeper information processing or the seeking of additional information driven by the need to resolve conflicting positive-negative beliefs (Castro et al., 2009; Hu et al., 2025; Van Gent et al., 2024). Consequently, behavioral likelihood may increase when individuals refute negative beliefs (Castro et al., 2009). Additionally, customers with higher uncertainty avoidance tend to provide feedback to prevent future uncertainties (Bakir et al., 2024). Given that Indonesian society exhibits a higher score in uncertainty avoidance compared to the Malaysian society (48 vs. 36) (The Culture Factor, 2025), it is plausible that Indonesian engage in feedback to refute negative beliefs or as a means of resolving conflicting perspectives. While this study did not examine information processing or cultural dimensions, the provision of feedback aligns with the rationality principle of SET, where guests provide constructive feedback to help the hotel enhance its services for their future stays.

5.1. Theoretical implications

Traditional SET often focuses on the linear exchange of positive or negative resources, where individuals respond positively to positive actions and vice versa. However, this study demonstrated the potential of ambivalence in tipping this equilibrium by changing the consistency of reciprocity norm, which could weaken or strengthen likelihood of behavior. Previous studies investigated ambivalence in a singular direction, viewing it as a push factor for consuming plant-based options, where it influences consumers toward sustainable alternatives (Ye and Mattila, 2021). The current study advances recent perspectives to include *situations of duality*, highlighting how conflicting emotions can disrupt or reshape perceived costs and benefits (Melwani and Rothman, 2022). This new evidence contextualized in sustainable hospitality accentuated consumers' internal states conflicted by environmentalism or consumerism. Ambivalence functions as a crucial psychological boundary condition, moderating the effects of external stimuli on behavior and helping to explain inconsistent or unexpected outcomes. Furthermore, with its inherent mixed evaluation, it enhances the S-O-R framework by serving as the 'Organism' component, an emotional element. Traditionally, emotional responses within this model were seen as bipolar: positive emotions leading to approach behavior and negative emotions to avoid behavior. Our research moves beyond this simplistic assumption, by portraying Organism as dynamic dual-valence processing and conflicting internal processing, capable of strengthening, weakening and changing the Stimulus – Response relationship.

5.2. Managerial implications

The present study echoes the hospitality research conducted in Malaysia and Indonesia that emphasized the significance of education, training, and communication on sustainability practices (Bittner et al., 2024; Chang et al., 2025; Rassiah et al., 2022; Yuniati, 2021). Individuals in these societies develop environmental attitudes through cognitive deliberations, hence, messages need to encourage cognitive engagement (van Tonder et al., 2020). Hotels need to provide a clear understanding of its initiatives and promote the benefits of going green. Clarity is important as the communication messages and level of persuasiveness can determine hotel guests' ambivalence (Chen and Peng, 2023; Ye and Mattila, 2021). Asian cultures are inclined to dialecticism and maybe more open to conflicting attributes (Luttrell et al., 2022), and messages with both positive and negative sides can be more persuasive and help consumers reach decisions more confidently (Shavitt and Barnes, 2020). For example, while hotels communicate their environmental efforts (the positive), they should also openly acknowledge their limitations (the negative), such as challenges with older infrastructure or constraints in securing sustainably sourced products. This can also potentially alleviate negative views such as green washing, and perceptions of cost-cutting measures disguised as environmentalism. Besides propagating the benefits of going green, Ojala (2008) had earlier demonstrated positive emotions in negating ambivalence. Communication can direct at inducing hope for the environment, joy in contributing to environmental conservation, or perception of sustainability practices being important and worth the inconvenience. These positive reinforcement through persuasion or appeal can help refute negative views and tilt the reciprocity balance to elevate guests' likelihood in engaging with CCB. From the perspective of social norms, especially in collectivist context, guests may overcome ambivalence if they perceive a social environment that embraces pro-environmental behaviors to increase group gain. Hotels can create a supportive environment for sustainability by training employees to actively promote environmental mindfulness and reinforce positive social norms among guests. Regionally, ambivalence weakens feedback and helping behaviors among Malaysian guests, suggesting that hotels should make these actions as low-effort as possible to counteract guest hesitation. Conversely, ambivalence in Indonesia can strengthen feedback and hotels should provide robust, easily accessible channels for guests to facilitate guests' input.

Convergent qualitative results from both countries also demonstrated that guests prioritize comfort, services, physical environment, facilities, and cleanliness when considering hotel's sustainability efforts. Hence, these factors cannot be compromised when implementing sustainability practices. For example, hotels can elevate comfort through sustainability: by installing heated towel racks (an uncommon feature in Malaysia and Indonesia) to provide dry and cozy towels that actively encourage guests to participate in the towel reuse program. Hotels can also introduce carbon offset programs or green initiatives and reward guests' participation with loyalty points, room upgrades, or spa treatments. Further enhancing comfort, sustainable bedding and linens made with organic cotton can offer a hypoallergenic and luxurious experience. Although these interventions are considered basic, they must emphasize tangible advantages to motivate guest buy-in, particularly within the hedonic context of a leisure hotel stay.

5.3. Limitations

Firstly, the study is constrained by non-probability sampling that limits the generalizability of the findings. Despite the sample size fulfilling the desired minimum statistical power (80 %), future research can benefit from larger and more representative samples. As proposed by research based on SET, outcomes can be influenced by individual differences and exchange orientations (Croppanzano and Mitchell, 2005; Rasoolimanesh et al., 2015). There may be other factors that can affect

outcomes differently, including social influences (Mouro et al., 2021), individual differences traits (Rothman et al., 2017), information processing styles (Akhtar et al., 2019), and culture (Ng et al., 2012). Even though the study compared results from two nations, cultural effects were not explicitly tested, and accounts of the findings were given based on previous studies and cultural dimensions classified by conventional classification (Ghazali et al., 2021; The Culture Factor, 2025). Future investigations can explicitly test cultural dimensions so that hotels in these countries can tailor marketing strategies and achieve competitive advantage in an increasingly diverse global marketplace.

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CRediT authorship contribution statement

Joanne Sau-Ching Yim: Writing – original draft, Project administration, Formal analysis, Conceptualization. **Erna Andajani:** Writing – review & editing, Data curation. **Lai Khuan Yap:** Investigation, Data curation. **Kuang Long Lim:** Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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