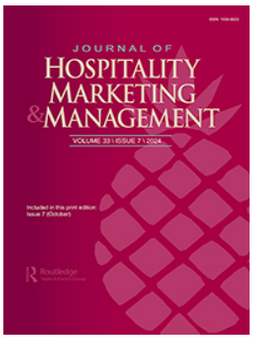

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Multiple mediating effects in the association between hotels' eco-label credibility and green WOM behavior

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ABSTRACT

This study investigated the effect of hotels' eco-label credibility (HELC) on customers' green word-of-mouth behavior through triple mediating effects of biospheric and egoistic values, pro-environmental attitude, and green patronage intention. Data were collected from 304 customers of eco-label hotels in Hong Kong. The PROCESS Macro plug-in software model (6) was employed to assess the hypotheses' direct, indirect, and triple mediating effects. The results showed that HELC did not have a significant link to green word-of-mouth behavior. However, the triple mediation effects of biospheric and egoistic values, pro-environmental attitude, and green patronage intention between the impact of HELC and green word-of-mouth behavior were confirmed. This study contributes to the existing literature in the hospitality field by applying a robust theoretical background and examining consecutive chain-of-effects in environmental issues.

摘要

本研究通过生物圈和利己主义价值观、环保态度和绿色顾客意愿的三重中介效应,研究了酒店生态标签可信度(HELC)对顾客绿色口碑行为的影响. 数据收集自香港304家eco-label酒店的客户. PROCESS宏插件软件模型(6)用于评估假设的直接、间接和三重中介效应. 结果表明,HELC与绿色口碑行为没有显著联系. 然而,生物圈和利己主义价值观、亲环境态度和绿色赞助意图在HELC的影响和绿色口碑行为之间的三重中介作用得到了证实. 本研究通过应用稳健的理论背景和研究环境问题中的连续效应链,为酒店领域的现有文献做出了贡献.

KEYWORDS

Hotels' eco-label credibility; biospheric value; egoistic value; green patronage intention; green word-of-mouth behavior; causal model of environmental concern

Introduction

The accelerated development of the hospitality industry has been identified as a significant contributor to environmental harm, including carbon emissions and the production of greenhouse gases (Abeydeera & Karunasena, 2019; Arici et al., 2024; Ishaq et al., 2022; Sharma et al., 2023). This has prompted concerns among tourists about the industry's approach to these environmental challenges (Cho et al., 2023; Gürlek & Koseoglu, 2021; Salem et al., 2023). Given the vital role the natural environment plays in many businesses, especially within the hospitality sector, addressing the environmental impact of pollutants has become a necessity (Preziosi et al., 2019; Ray et al., 2023; Topcuoglu et al., 2022).

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As a result, numerous scholars have engaged in the exploration of diverse strategies and methods to encourage environmentally conscious actions among consumers, leading to significant transitions toward more eco-friendly behaviors (Gupta et al., 2019; Nosrati et al., 2023; Teng & Wu, 2019). Recent findings in the field of sustainability and environmental concerns in the hospitality and tourism industry have highlighted that a significant majority of travelers (76%) prefer to book accommodations at eco-label hotels, which are recognized for their third-party sustainability credentials (Preziosi et al., 2021; Salem et al., 2023). Hence, recognizing this, the credibility of eco-label hotels, known as hotels' eco-label credibility (HELC), could potentially have a substantial influence on customers' environmentally friendly attitudes and behaviors, a factor that has been overlooked in existing literature but strongly emphasized by previous researchers (Mansoor & Paul, 2022; Preziosi et al., 2021; Salem et al., 2023).

Eco-label credibility refers to a mechanism and guideline that communicates the environmental friendliness of a service or product offered by a specific enterprise, addressing customers' environmental concerns (Moussa & Touzani, 2008; Salem et al., 2023). Considering that eco-label credibility plays a vital role for environmentally conscious customers in identifying and choosing green products and services from a specific organization, it may lead to positive outcomes at both the individual (e.g., customers) and organizational levels (Preziosi et al., 2021; Salem et al., 2023). In this regard, some scholars have found that green brand credibility has a positive impact on customers' evaluation of green brands (P. Kumar et al., 2021), electronic word-of-mouth behavior (J. Kim et al., 2020), and intentions to purchase green products (Vidyanata et al., 2022). These positive effects, in turn, lead to organizational benefits such as customer loyalty and a willingness to engage in environmentally friendly behaviors (Yeh et al., 2021). Similarly, research in the hospitality sector has shown that when customers recognize and value HELC, they are more likely to be content and demonstrate a higher willingness to spend, revisit, and engage in positive word-of-mouth behavior (S.-H. Kim et al., 2017; Prakash et al., 2019; Preziosi et al., 2021).

A considerable body of research has duly recognized the noteworthy and conspicuous influence of HELC on environmentally friendly and sustainable outcomes (Preziosi et al., 2019; Salem et al., 2023). However, there has been a marked emphasis on investigating its immediate impact on green word-of-mouth behavior, as well as the underlying mechanisms by which it contributes to achieving sustainability objectives (Mansoor & Paul, 2022). Furthermore, there is a call to address the notable lacuna in understanding the mediating mechanism concerning the association between HELC and the manifestation of green word-of-mouth behavior (Mansoor & Paul, 2022; Preziosi et al., 2021). Notably, the emphasis is on the potential roles played by biospheric and egoistic values, pro-environmental attitude, and green patronage intention, as underscored by prior scholarly contributions (Chi, 2021; Mansoor & Paul, 2022; Preziosi et al., 2021). Concerning this matter, ElHaffar et al. (2020) specifically noted that "ecolabels constitute an additional contextual factor that has not been sufficiently examined in the context of the green gap" (p. 12).

Given the recognized research gaps in existing literature, this study aims to investigate the effect of HELC on customers' green word-of-mouth behavior through triple mediating effects of biospheric and egoistic values, pro-environmental attitude, and green patronage intention. By doing so, this study makes a multifaceted contribution to the field. First, although numerous studies have found that different types of individual values (Nosrati et al., 2023; Teng & Wu, 2019), through mediating mechanisms, can lead to pro-

environmental and green behaviors, some research has indicated that there is still a notable theme called a "value-action gap" in the existing literature regarding the relationship between the value of green consumption and its actual impact on green behavioral outcomes (de Barcellos et al., 2011; Echegaray & Hansstein, 2017; ElHaffar et al., 2020; Essiz et al., 2022). This study's unique contribution lies in its examination of the triple mediating effects of biospheric and egoistic values, pro-environmental attitude, and green patronage intention on the impact of HELC on green word-of-mouth behavior. This may bridge the value-action gap through the application of the causal model of environmental concern.

Second, the review of existing literature, especially in the hospitality industry, has indicated a lack of comprehensive understanding regarding the role of HELC in enhancing biospheric and egoistic values, and their final attitudinal, intentional, and behavioral consequences recommended by previous scholars (Mansoor & Paul, 2022; Preziosi et al., 2021; Salem et al., 2023). This study responds to this research gap by providing empirical evidence regarding the impact of HELC on green word-of-mouth behavior through the triple mediating effect of biospheric and egoistic values, pro-environmental attitude, and green patronage intention in line with the triple mediator mechanisms of the causal model of environmental concern.

Third, the majority of studies have demonstrated that green patronage intention and green word-of-mouth behavior are influenced by various green or non-green factors (Filimonau et al., 2022; Hameed et al., 2022; Torres-Moraga et al., 2021). This indicates that both of these variables are considered as outcomes. This study takes a different stand and follows the assumption advocated by the causal model of environmental concern; that is, intention typically precedes behavior (Stern et al., 1995). This suggests that green patronage intention may serve as a predictor of green word-of-mouth behavior. In this study, the assessment focuses on whether green patronage intention can be considered a predictor of green word-of-mouth behavior as the criterion variable.

Literature review and hypotheses development

Causal model of environmental concern

In the realm of sustainability and environmental awareness, social and psychological models play a significant role in shaping individuals' concern for the environment and their corresponding behaviors (Stern & Dietz, 1994; Stern et al., 1995). Recognizing this, Stern et al. (1995) developed the causal model of environmental concern, which emphasizes the importance of social, institutional, and incentive structures in stimulating environmental concern among individuals, ultimately leading to various behavioral outcomes. This model comprises a series of interconnected mechanisms that activate different factors, ultimately resulting in environmental consequences. According to the causal model of environmental concern, "individuals are embedded in social structure that has substantial influence on all psychological variables. Social structure acts in two ways. It shapes early experience and thus an individual's values and general beliefs or worldwide. It also provides opportunities and constraints that shape behavior and the perceived response to behavior" (Stern et al., 1995, p. 726).

The causal model of environmental concern outlines a sequence of six steps. In the initial stage of this model, specific positions within social structures, institutional constraints, and incentive structures are identified and defined. Subsequently, values that are influenced by

or rooted in these social, institutional, and incentive structures begin to emerge. In the third stage, overarching beliefs about the world are established. Moving forward, the fourth, fifth, and sixth stages witness the emergence of attitudes and beliefs, behavioral commitments and intentions, and finally, observable behavior, respectively (Stern et al., 1995).

Based on this model, several studies have been identified that explore the relationship between environmental values and various intervening mechanisms. For instance, Li et al. (2021) examined the influence of environmental concern; while M. F. Chen (2020) investigated the role of awareness of environmental consequences and consumption intention of environmentally friendly products. Additionally, Lai et al. (2020) explored the impact of pro-environmental beliefs and ascription responsibilities. Despite previous studies highlighting the influence of values such as biospheric and egoistic values on environmental outcomes (M. F. Chen, 2020; Lai et al., 2020; Li et al., 2021), the existing literature lacks evidence regarding the consideration of the first step of the causal model of environmental concern in relation to individuals' values and their subsequent outcomes.

This study utilizes the consecutive stages of the causal model of environmental concern to investigate the factors that ultimately influence behavioral outcomes. Accordingly, HELC (institutional or incentive structure) was identified as a key element in the first phase, which amplifies customers' biospheric and egoistic values. The positive impact of these values then leads to the development of pro-environmental attitude, representing the subsequent step in the causal model of environmental concern. Subsequently, the study explores how customers' pro-environmental attitude triggers green patronage intention and green word-of-mouth behavior, serving as the final two steps in the model.

Hotels' eco-label credibility and green word-of-mouth behavior

Prior studies have shown that credibility is a crucial factor in influencing how consumers assess and react to information related to sustainability initiatives. For instance, when a reliable source effectively communicates persuasive messages, it has been observed to have a positive effect on consumer attitudes (P. Kumar et al., 2021; Tormala & Petty, 2004). Credibility is defined as "the extent to which the source is perceived as possessing expertise relevant to the communication topic and can be trusted to give an objective opinion on the subject" (Goldsmith et al., 2000, p. 304). In the context of eco-labels, credibility refers to customers' perceptions of how well the eco-label acknowledges and affirms the environmental impact of a product or service (Kumar et al., 2021). By providing accurate and authentic information, eco-label credibility has the potential to revolutionize customers' perceptions, and leading to a shift in their consumption patterns toward sustainability behavior (Baumeister & Onkila, 2017; Kumar et al., 2021). Broadly speaking, eco-label credibility can be leveraged to communicate an organization's commitment to environmentally sustainable practices and community engagement to both staff and clients. Several studies have shown that eco-label credibility and certification can serve as justifiable leverage to encourage customers to embrace green and sustainable behaviors (Baumeister & Onkila, 2017; Kumar et al., 2022; Mansoor & Paul, 2022). For example, Mansoor and Paul (2022) demonstrated that perceived credibility of green brands positively influences customers' choice behavior. Similarly, Salem et al. (2023) claimed that the presence of hotel eco-labels significantly influences environmentally friendly, responsible, and sustainable practices and initiatives within the hospitality sector.

The existing literature has highlighted that despite the implementation of green initiatives and strategies by organizations and businesses, they have not consistently resulted in positive green behavioral outcomes among customers (de Barcellos et al., 2011; Echegaray & Hansstein, 2017; ElHaffar et al., 2020; Essiz et al., 2022). This research gap raises questions about whether the predictors of green behavior actually led to desired green outcomes. In other words, the establishment of green procedures and strategies by organizations and businesses does not directly translate into green behavioral outcomes among individuals (Vatankhah et al., 2023). For example, Essiz et al. (2022) identified a value-action gap in the literature based on the theory of planned behavior, suggesting that green behavioral outcomes are not guaranteed. However, there is currently a lack of evidence in the existing literature regarding the impact of HELC on green behavioral outcomes. In summary, the few existing studies on the effects of eco-label credibility only demonstrate positive behavioral outcomes without providing comprehensive evidence.

In the hospitality and tourism industry, for example, studies notified that eco-label credibility serves as a means to inform customers about the environmental impact of the sector when providing products and services (Salem et al., 2023). In essence, HELC communicates to guests how well a hotel embraces environmental practices and works to mitigate negative environmental degradation (Preziosi et al., 2019, 2021). Similarly, some researchers have noted that the ecological and social responsibility (e.g., HELC) demonstrated by hotels can be seen as a strategic advantage for them, enabling them to not only maintain a competitive edge in terms of cost, but also to stimulate environmental consciousness and behavior among guests (Kalyar et al., 2021; Stadlthanner et al., 2022). While the existing literature in the hospitality field does not specifically address the influence of HELC on green word-of-mouth behavior, previous studies have demonstrated that brand credibility has the potential to enhance customers' word-of-mouth behavior (An et al., 2019; Boonsiritomachai & Sud-On, 2020; Dowell et al., 2019; Sallam, 2015). For example, Boonsiritomachai and Sud-On (2020) identified that brand awareness has the ability to enhance customers' word-of-mouth behavior in the hospitality industry. Given this comprehension, it can be contended that HELC as an environmentally friendly and sustainable strategy holds the capability to enhance guests' inclination to engage in green word-of-mouth behavior concerning hotels. Consequently, the subsequent hypotheses can be formulated:

H1: HELC relates positively to green word-of-mouth behavior.

Mediating role of biospheric and egoistic values

Stern et al. (1995) described biospheric value whereby "people judge phenomena based on costs or benefits to ecosystems or the biosphere" and egoistic value as a construct that "predispose[s] people to protect aspects of the environment that affect them personally, or to oppose protection of the environment if the personal costs are perceived as high." (p. 726). Simply put biospheric value places greater importance on the perceived advantages and disadvantages for the overall ecosystem, while egoistic value refers to pro-self-concept to an individual's self-perception that reflects a personal commitment to health or a concern for the well-being of their family (Choi et al., 2015; Prakash et al., 2019). In the existing literature, biospheric and egoistic values are recognized as two distinct dimensions within the construct of environmental concern (Helm

et al., 2018; Stern et al., 1995). The rationale for selecting biospheric and egoistic values is supported by research indicating that the former has a significant impact on motivating consumers to choose sustainable products and services (Kiatkawsin & Han, 2017; Tate et al., 2014), whereas the latter suggests that health-conscious individuals are more likely to engage in eco-friendly behaviors compared to others (Prakash et al., 2019; Zanoli & Naspetti, 2002). Accordingly, several studies have indicated that both biospheric values are associated with an increased intention to visit green hotels (Choi et al., 2015) and pro-environmental behavior (Helm et al., 2018). Similarly, egoistic values have been found to enhance green satisfaction and loyalty (Imaningsih et al., 2019) as well as the purchase of eco-friendly packaged products (Prakash et al., 2019). Despite the limited consideration of the mediating roles of biospheric and egoistic values in the existing literature, several studies have demonstrated the positive connection between these values and external factors, such as HELC and their influence on green outcomes (Ma et al., 2020; Martin & Czellar, 2017; Wu & Zhu, 2021). In other words, to the best of our knowledge, no research has examined the role of biospheric and egoistic values together in explaining the green word-of-mouth behavior of eco-label hotels.

However, Ma et al. (2020) concluded that information and policy instruments as external factors can stimulate biospheric and egoistic values, thereby enhancing individuals' waste separation behavior. Similarly, Martin and Czellar (2017) provided evidence for the mediating role of biospheric values in the relationship between customers' self-nature connection and sustainable behavior. The literature suggests that individual values, including biospheric and egoistic values, substantially influence environmental attitudes, intentions, and behaviors (Rodríguez et al., 2022). Shedding light on the literature of biospheric and egoistic values, Stern et al. (1995) also stated that "social/institutional/incentive structures shape early experience and thus an individuals' values and general beliefs or worldview" (p. 726). This notion implicitly acknowledges the impact of HELC as incentive structure on reinforcing customers' biospheric and egoistic values. For instance, Hyun Baek and Whitehill King (2011) demonstrated that consumers' perceptions of brand value are strongly influenced by brand credibility (Hyun Baek & Whitehill King, 2011; Mansoor & Paul, 2022). Additionally, Martin and Czellar (2017) found that customers' connection with nature can foster biospheric value, leading to sustainable behavior. While the literature has focused on investigating the influence of hotels' sustainable practices on customers' biospheric and egoistic values, there is a lack of evidence regarding the impact of HELC on these values (Mansoor & Paul, 2022). Therefore, drawing from the aforementioned discussion, it can be inferred that HELC can promote green word-of-mouth behavior through the influence of biospheric and egoistic values. As a result, the following hypotheses are proposed:

H2: Biospheric value mediates the link between HELC and green word-of-mouth behavior.

H3: Egoistic value mediates the link between HELC and green word-of-mouth behavior.

Mediating role of pro-environmental attitude

Pro-environmental attitude refers as "a person's tendency to be concerned about the natural environment and is positively related to daily pro-environmental behaviors" (Bissing-Olson

et al., 2013, p. 160). According to research, it has been demonstrated that individuals who hold a pro-environmental attitude are more likely to engage in actions and behaviors that protect and support the environment (Andersson et al., 2005; Bissing-Olson et al., 2013; Davari et al., 2024; Nosrati et al., 2023; Wyss et al., 2022). For instance, according to the findings of Nosrati et al. (2023) a positive and supportive attitude toward tourism was identified as a significant mediator in stimulating customers' pro-environmental behavior. Wyss et al. (2022) highlighted that a pro-environmental mind-set leads to pro-environmental actions when individuals believe that adopting sustainable practices can significantly contribute to environmental improvement. This idea aligns with the view that HELC can be a beneficial tool that fosters a pro-environmental attitude (Taufique et al., 2017), which in turn leads to green behavior, such as green word-of-mouth behavior. Certain studies have indirectly indicated that individuals' attitudes toward green and environmental matters can be significantly influenced by trust and credibility, with eco-label credibility being particularly effective in ensuring this (Riskos et al., 2021; Testa et al., 2015). Considering that a pro-environmental attitude can serve as a crucial mediator, it can establish a connection between HELC and green behaviors, such as engaging in green word-of-mouth behavior.

Several studies have confirmed the intermediary role of a pro-environmental attitude (Davignon et al., 2022; Filimonau et al., 2022; Taufique et al., 2017; Wyss et al., 2022). Davignon et al. (2022) emphasized that a pro-environmental attitude bridged the gap between teenagers' involvement in cultural activities and their pro-environmental mind-set. Similarly, Filimonau et al. (2022) suggested that a pro-environmental attitude could link the impact of national cultural aspects to environmentally responsible intentions in the tourism sector. In the context of eco-labels and customers' awareness of this environmental tool, Taufique et al. (2017) found that knowledge about eco-labels can significantly influence pro-environmental consumer behavior by strengthening their environmental attitude. Similarly, other scholars have suggested that the credibility of eco-labels can serve as a suitable predictor to stimulate individuals' attitudes toward purchasing green products, ultimately leading to green product purchases (Riskos et al., 2021). Therefore, it can be argued that HELC can play a significant role in motivating customers toward green issues. HELC not only reduces uncertainty by providing information but also encourages and shapes customers' attitudes toward making environmentally conscious choices based on their perceptions and preferences. Consequently, it can be postulated that when customers encounter HELC, it will activate their pro-environmental attitude, resulting in green word-of-mouth behavior. Therefore, the following hypothesis is proposed:

H4: Pro-environmental attitude mediates the relationship between HELC and green word-of-mouth behavior.

Mediating role of green patronage intention

Green patronage intention is a concept that has gained significant attention in the field of consumer behavior and sustainability (Teng et al., 2015). Green patronage intention refers to the willingness or intention of individuals to support or patronize environmentally friendly or sustainable products, services, or businesses. It reflects the consumer's desire

to make environmentally responsible choices and support companies that prioritize sustainability (Rahman & Reynolds, 2019; Tan & Yeap, 2012). Several studies have explored the factors influencing green patronage intention. For instance, research by Tan et al. (2020) found that altruism, reasons for, and against patronage significantly influence hotels' green patronage intention. Similarly, a study by Filimonau et al. (2022) identified environmental concern, general environmental knowledge, green hotels knowledge, and pro-environmental attitudes had significant impacts of green patronage intention.

While previous studies have consistently demonstrated that various predictors and factors contribute to the formation of intentions, such as non-green and green patronage intention (Filimonau et al., 2022; Kim et al., 2023; Rahman & Reynolds, 2019; Tan et al., 2020; Torres-Moraga et al., 2021), the causal model of environmental concern provides a justification for the mediating role of green patronage intention (Dietz et al., 1998; Stern et al., 1995). This study's research model aligns with the causal model of environmental concern, which suggests that certain phases are necessary to motivate individuals to engage in sustainable actions (Dietz et al., 1998; Stern et al., 1995). Previous research has also indicated that intentions of all types serve as prerequisite steps or phases toward achieving behavioral outcomes (Stern et al., 1995; Tan et al., 2018). Therefore, it can be argued that green patronage intention may influence green word-of-mouth based on the conceptual framework and phases outlined in the causal model of environmental concern (Dietz et al., 1998; Stern et al., 1995). With this realization, it can be assumed that HELC by influencing customers' intention to support green practices, may lead to green word-of-mouth behavior. Therefore, it can be hypothesized that:

H5: Green patronage intention mediates the relationship between HELC and green word-of-mouth behavior.

Triple mediating effect

This study's research model aligns with the causal model of environmental concern, which posits that certain phases or prerequisites are necessary to motivate individuals to engage in sustainable actions (Dietz et al., 1998; Stern et al., 1995). Based on the sequential process of the causal model of environmental concern, the social structure can influence certain values that play a crucial role in shaping people's attitudes toward green issues. Stern et al. (1995) propose that values derived from social and institutional structures can precede beliefs and attitudes, which in turn influence customer intentions. Consequently, certain intentional perspectives may be formed based on these attitudes, ultimately leading to behavioral aspects.

In simple terms, the first phase of this model involves incentives and social structures that generate different values in the second phase. These values have a significant impact on the development of general or specific beliefs and attitudes in the third phase. Finally, in the fourth and fifth phases, intentions and behaviors are formed, respectively. While previous studies have established that intention, such as green patronage intention, is influenced by various predictors and factors (Filimonau et al., 2022; Rahman & Reynolds, 2019; Torres-Moraga et al., 2021), the causal model of environmental concern can provide a theoretical basis for understanding the mediating role of green patronage

intention (Dietz et al., 1998; Stern et al., 1995). Previous research has also indicated that intentions, including green patronage intention, serve as preliminary steps or phases toward achieving behavioral outcomes (Stern et al., 1995; Tan et al., 2018). Therefore, it can be inferred that green patronage intention may influence green word-of-mouth behavior based on the conceptual framework and phases outlined in the causal model of environmental concern.

Drawing upon the aforementioned theoretical framework, the constructs of the current study are in line with the proposed model, with HELC serving as the catalyst for the initial phase, namely the incentive structure. Subsequently, the constructs of biospheric and egoistic values play a crucial role in fostering a pro-environmental attitude, green patronage intention, and ultimately, green word-of-mouth behavior among customers. Based on this rationale, the following hypotheses are posited:

H6: Biospheric value, pro-environmental attitude, and green patronage intention have triple mediating effects on the impact of HELC on green word-of-mouth behavior.

H7: Egoistic value, pro-environmental attitude, and green patronage intention have triple mediating effects on the impact of HELC on green word-of-mouth behavior.

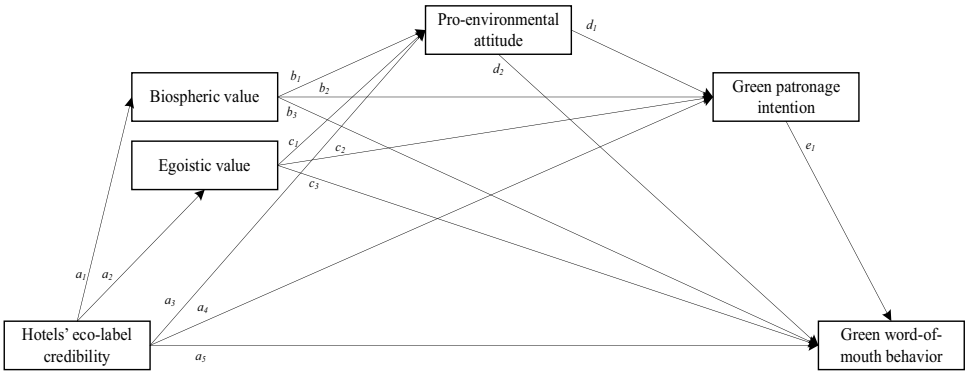
The research model, derived from the hypotheses, can be illustrated in Figure 1.

Methodology

Sample and data collection

Hong Kong hotels have actively pursued corporate social responsibility and implemented green initiatives in the hospitality sectors (Choy et al., 2021; Kucukusta et al., 2013). Therefore, we made the decision to gather data from customers of Hong Kong hotels (e.g., Hotel ICON, etc.) to obtain more reliable information. However, previous studies in the field of green and sustainability reported that those participants who already possess knowledge and extensive experience in staying at green hotels and engaging in sustainable practices could introduce bias and undermine the study's validity (ElHaffar et al., 2020; Essiz et al., 2022). For instance, in regard to value-action gap ElHaffar et al. (2020) stated that "consumers' generally perceive that the attributes and quality of green products are inferior to those of the non-green alternative. This promotes the green gap and increases it significantly. Therefore, in order to bridge the intention behavior gap, it is necessary to address the issue of consumer perceptions" (p. 7). This understanding leads to the conclusion that when customers have prior experience and are familiar with the quality of green products and services, their perceptions may become biased and not accurately reflect reality, as noted as a behavioral gap among scholars (ElHaffar et al., 2020). Therefore, customers with primary experience staying in green hotels were selected for this study through judgmental sampling, while individuals with extensive experience staying in green hotels were excluded from the survey.

The data collection process involved an online survey created using Google Forms, which has been utilized in previous research within the tourism and hospitality industries (Salem & Mobarak, 2019; Trinanda et al., 2022). To adhere to social



H1. HELC relates positively to green word-of-mouth behavior. (a_5)
H2. Biospheric value mediates the link between HELC and green word-of-mouth behavior. (a_1b_3)
H3. Egoistic value mediates the link between HELC and green word-of-mouth behavior. (a_2c_3)
H4. Pro-environmental attitude mediates the relationship between HELC and green word-of-mouth behavior. (a_3d_2)
H5. Green patronage intention mediates the relationship between HELC and green word-of-mouth behavior. (a_4e_1)
H6. Biospheric value, pro-environmental attitude, and green patronage intention have triple mediating effects on the impact of HELC on green word-of-mouth behavior. ($a_1b_1d_1e_1$)
H7. Egoistic value, pro-environmental attitude, and green patronage intention have triple mediating effects on the impact of HELC on green word-of-mouth behavior. ($a_2c_1d_1e_1$)

Figure 1. Research model.

distancing guidelines, the survey administrators printed barcodes containing a link to the online questionnaire. Prior to distributing the barcodes, the administrators provided a brief introduction to the survey's topic and purpose. They also offered detailed information about the background of the study and the concept of green hotels after the respondents agreed to participate. A visually appealing brochure was created and distributed in hotel lobbies, restaurants, and other high-traffic areas. This brochure outlined the survey's overarching goals and objectives, and included a barcode that allowed individuals to access the online questionnaire. To ensure the validity of the respondents, they were asked if they had previous experience staying in green hotels in Hong Kong. Once the customers selected that they have previous experience, the questionnaire was coded to end and display a thank you message to the respondents. Out of the 312 participants who did not have prior experience, 304 questionnaires were considered valid after discarding eight incomplete responses. Additionally, the minimum sample size was determined to be 270 using G*Power software, assuming a power of 0.80, significance level ($for = 0.05$ and $f^2 = 0.15$). Therefore, the sample size exceeds the minimum representative sample size for the population. To minimize common method variance, procedural remedies were implemented, such as emphasizing that there are no right or wrong answers in the questionnaire. The collected information will remain confidential (Podsakoff et al., 2003). Table 1 presents the demographic information of the sample.

Measurement instrument

Two academicians working in the field of hospitality and tourism was asked to check the questionnaire for readability and comprehension. There were no issues reported. As both

Table 1. Respondents' profile ($N = 304$).

Variables	Frequency	percentage
Age		
18–27	73	24.10
28–37	98	32.20
38–47	62	20.40
48–57	50	16.40
58 and older	21	6.90
Gender		
Male	121	39.80
Female	180	59.20
Other	3	1.00
Education		
Primary school	2	0.70
Secondary and high school	55	18.10
Vocational school (two-year program)	21	6.90
University first degree	129	42.40
Master's or PhD	97	31.90
Marital status		
Single or divorced	180	59.20
Married	124	40.80

hotels in Hong Kong cater to domestic and international tourists, bilingual questionnaires were prepared. Thus, back translation was used to translate the original items into Chinese. Based on a pilot study conducted among 10 participants, no amendments were required regarding readability and comprehension. Biospheric value, egoistic value, pro-environmental attitude, and green word-of-mouth were measured using five-point scales ("1 = strongly disagree to 5 = strongly agree"), whereas HELC and green patronage intention were measured using seven-point scales ("1 = strongly disagree to 7 = strongly agree"). Due to the fact that the original items Likert scale had different anchors (some of them was 5-point Likert scale some other 7), two different anchors were used in the present study, as is done in the literature (Ferreira et al., 2010; Karatepe et al., 2023; Nosrati et al., 2024; Salant & Dillman, 1994; Vatankhah et al., 2023). Table 2 presents the comprehensive outline of measurement instruments along with their corresponding references.

Data analysis

The data analysis in this study was carried out in two stages. The first stage involved conducting a confirmatory factor analysis (CFA) using AMOS (V.23) to measure psychometric properties. The subsequent fit indices included: "X^2, degree of freedom (df), comparative fit index (CFI), Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR)" were applied. In order to assess the construct validity, calculations were performed to determine the average variance extracted (AVE) and composite reliability (CR). In the second phase, the evaluation of direct, indirect, and triple mediation hypotheses was conducted using the "model 6 PROCESS Macro SPSS" plug-in software. The significance of indirect and triple mediation effects was determined by employing the bootstrapping method with 5000 sample iterations, along with the calculation of Lower-level confidence interval (LLCI) and Upper-level confidence interval (ULCI) at a 95% confidence level.

Table 2. Results of CFA model, internal consistency, and descriptive statistics.

Items	Factor loadings	AVE	CR	α	Mean	SD
Hotels' eco-label credibility (Moussa & Touzani, 2008)		0.478	0.845	0.845	5.02	0.832
I can trust what the eco-label says.	0.666					
The eco-label comes from an organization or recognized experts.	0.709					
The eco-label is honest.	0.747					
The body that gives this eco-label has good intentions	0.677					
The organization has passed some serious tests before issuing the eco-label.	0.655					
The eco-label inspires me confidence.	0.688					
Biosphere value (Stern et al., 1995)		0.581	0.806	0.744	4.362	0.617
We, as human beings, should not damage the beauty of the nature.	0.759					
We, as human beings, should live harmoniously with the nature.	0.791					
The nature is very beautiful.	–					
It would be a shame if we, as human beings, damage the environment for our benefits.	0.735					
Egoistic value (Tarkiainen & Sundqvist, 2005)		0.513	0.758	0.752	3.650	0.737
I carefully select my food to ensure good health.	0.651					
I always consider the health benefits of a product when making a purchase.	0.669					
I consider myself as a health-conscious consumer.	0.817					
Pro-environmental attitude (Bamberg, 2003)		0.520	0.865	0.792	3.889	0.555
The major part of the population does not act in an environmentally conscious way.	–					
The limits of economic growth have been crossed or will be reached very soon.	–					
Environmental protection measures should be implemented, even if they result in a reduction in the number of jobs within the economy.	0.886					
Thinking about the environmental conditions our children and grandchildren will have to live in worries me.	0.685					
Newspaper articles or TV reports addressing environmental issues evoke anger within me.	0.599					
If we continue on our current path, we are heading towards an environmental catastrophe.	0.676					
It remains evident that politicians are not doing enough to prioritize environmental protection.	0.743					
In order to benefit the environment, we should be willing to make sacrifices and limit our current lifestyle.	0.706					
Green patronage intention (Han & Kim, 2010)		0.685	0.867	0.860	5.372	1.074
I am willing to stay at a green hotel when traveling.	0.746					
I intend to stay at a green hotel when traveling.	0.866					
I am committed to making an effort to stay at a green hotel when traveling.	0.865					
Green word-of-mouth behavior (Molinari et al., 2008)		0.665	0.888	0.882	3.942	0.737
I highly recommend green hotels to others due to their environmental image.	0.780					
I would positively recommend green hotels to others because of their environmental functionality.	0.867					
I actively encourage others to stay at green hotels because of their environmentally-friendly practices.	0.859					
I speak positively about green hotels to others because of their strong environmental performance.	0.749					

AVE = (average variance extracted); CR = (composite reliability); α (Cronbach alpha) SD = (standard deviation).

Results

Assessment of measurement model

CFA was applied before the hypotheses testing phase to check construct validity. Since the study has six variables, a six-factor measurement model was selected due to its suitability with the dataset. The goodness of fit indices' results are as follows: X^2 = 493.248, df = 260, X^2/df = 1.897, CFI = 0.936, TLI = 0.927, $SRMR$ = 0.056, and $RMSEA$ = 0.054. The findings of the factor loadings, AVE, CR, Cronbach alpha (α), mean and standard deviation (SD) are shown in Table 2. The factor loadings of all variables exceeded 0.5, indicating statistically significant findings (Collier, 2020). Based on the information provided in Table 2, one item from the biospheric value construct and two items from the pro-environmental attitude constructs were excluded from the analysis. Previous research suggests that if the variance of a factor loading in CFA is less than half (0.50) of the variance, it can be removed from the analysis. Since these items had factor loadings below 0.5, they were deemed unsuitable and removed (Collier, 2020). Additionally, it was noted that items with factor loadings below 0.5 should only be considered for removal if their deletion leads to an improvement in the AVE and CR values, surpassing the recommended threshold (Hair et al., 2021). The values of AVE and CR of the study's constructs (except the AVE of HELC) were all more than 0.5 and 0.7, respectively. Earlier studies have suggested that if the CR score is above 0.70, it is deemed acceptable for AVE to be below 0.50, since AVE is a conservative evaluation (Fornell & Larcker, 1981). Moreover, numerous research studies in the field of hospitality and tourism management have demonstrated that the AVE can be below 0.5. However, if the CR exceeds 0.7, it is considered acceptable (Akgunduz & Eryilmaz, 2018; Karatepe et al., 2020). To assess the internal consistency of the measurement items, the alpha coefficient was employed. The results indicated that all alpha values exceeded 0.7, indicating that the present study has achieved satisfactory internal consistency (Cortina, 1993).

According to the recommendation by Fornell and Larcker (1981), the assessment of discriminant validity in the measurement model involves two steps. In the first step, the correlation matrix values should be smaller than the square root of AVE for each latent variable. The results presented in Table 3 indicate that the correlation matrix values in each row are indeed smaller than the square root of the AVEs, which are highlighted in bold on the diagonal. In the second step, as shown in Table 4, the square of the correlation matrix is calculated, and it should be smaller than the AVE for each latent variable. As observed in Table 4, the squared correlations in each row are indeed smaller than the AVEs of the corresponding latent variables. Therefore, it can be concluded that discriminant validity is not a concern in the present study (Fornell & Larcker, 1981). Furthermore, to test for common method bias in the study, the Harmon single factor method was employed. The factor extractions of all factors were fixed to one using principal component analysis. The results of the first factor revealed a variance extraction of 23.745%, which is below 50% considered acceptable.

Hypotheses testing

Figure 2 presents the outcomes of the model test. The first hypothesis proposed that HELC positively relates to green word-of-mouth behavior. However, the statistical results did not

Table 3. Correlation matrix.

Variables	1	2	3	4	5	6
1. Hotels' eco-label credibility	**(0.691)**					
2. Biospheric value	0.290**	**(0.762)**				
3. Egoistic value	0.296**	0.375**	**(0.716)**			
4. Pro-environmental attitude	0.271**	0.701**	0.402**	**(0.721)**		
5. Green patronage intention	0.463**	0.521**	0.526**	0.587**	**(0.827)**	
6. Green word-of-mouth behavior	0.396**	0.575**	0.535**	0.641**	0.766**	**(0.815)**

The bold numbers in parentheses on the diagonals represent the square root of the AVE for each latent variable.
**Correlation is significant at the 0.01 level, $p < 0.01$.

Table 4. Results of testing discriminant validity.

Variables	1	2	3	4	5	6
1. Hotels' co-label credibility	**(0.478)**					
2. Biospheric value	0.084	**(0.581)**				
3. Egoistic value	0.087	0.140	**(0.513)**			
4. Pro-environmental attitude	0.073	0.491	0.161	**(0.520)**		
5. Green patronage intention	0.214	0.271	0.276	0.344	**(0.685)**	
6. Green word-of-mouth behavior	0.156	0.330	0.286	0.410	0.586	**(0.665)**

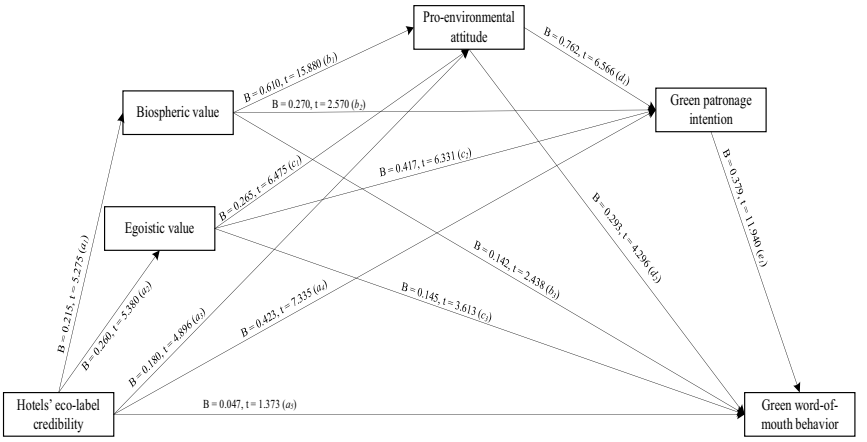
The bold numbers in parentheses on the diagonals represent the AVE for each latent variable.

show a significant effect [B = 0.047, $t = 1.373$ (a_5)], leading to the conclusion that the first hypothesis could not be confirmed.

Hypothesis 2 suggested that biospheric value mediates the relationship between HELC and green word-of-mouth behavior. The results indicated a positive relationship between HELC and biospheric value [B = 0.215, $t = 5.275$ (a_1)], which in turn significantly influences green word-of-mouth behavior [B = 0.142, $t = 2.438$ (b_3)]. Therefore, the mediating role of biospheric value was significant [B = 0.030, LLCI = 0.001, ULCI = 0.070 (a_1b_3)]. Hypothesis 3 proposed that egoistic value mediates the relationship between HELC and green word-of-mouth behavior. The results indicated a positive connection between HELC and egoistic value [B = 0.260, $t = 5.380$ (a_2)], and that egoistic values significantly influenced green word-of-mouth behavior [B = 0.145, $t = 3.613$ (c_3)]. Therefore, the third hypothesis was confirmed as significant [B = 0.037, LLCI = 0.010, ULCI = 0.074 (a_2c_3)].

Hypothesis 4 proposed that pro-environmental attitude mediates the relationship between HELC and green word-of-mouth behavior. As shown in Figure 2, HELC positively influenced pro-environmental attitude [B = 0.180, $t = 4.896$ (a_3)], which in turn positively affected green word-of-mouth behavior [B = 0.293, $t = 4.296$ (d_2)]. Thus, pro-environmental attitude mediated the impact of HELC on green word-of-mouth behavior [B = 0.052, LLCI = 0.029, ULCI = 0.089 (a_3d_2)]. Hypothesis 5 suggested that green patronage intention acts as a mediator between HELC and green word-of-mouth behavior. As per the results shown in Figure 2, the influence of HELC on green patronage intention [B = 0.423, $t = 7.335$ (a_4)] was significant. Furthermore, the impact of green patronage intention on green word-of-mouth behavior [B = 0.379, $t = 11.940$ (e_1)] was also validated. Therefore, the significant mediating role of green patronage intention was confirmed [B = 0.160, LLCI = 0.101, ULCI = 0.213 (a_4e_1)].

Hypothesis 6 suggested that biospheric value, pro-environmental attitude, and green patronage intention collectively have triple mediating effects on the impact of HELC on green word-of-mouth behavior. As shown in Figure 2, the link between HELC ➢ biospheric



	Indirect effect	S.E	LLCI	ULCI
H2. HELC → biospheric value → green word-of-mouth behavior. (a_1b_1)	0.030	0.017	0.001	0.070
H3. HELC → egoistic value → green word-of-mouth behavior. (a_2c_2)	0.037	0.016	0.010	0.074
H4. HELC → pro-environmental attitude → green word-of-mouth behavior. (a_5d_2)	0.052	0.017	0.029	0.089
H5. HELC → green patronage intention → green word-of-mouth behavior. (a_4e_1)	0.160	0.026	0.101	0.213
H6. HELC → biospheric value → pro-environmental attitude → green patronage intention → green word-of-mouth behavior. ($a_1b_1d_1e_1$)	0.037	0.010	0.020	0.058
H7. HELC → egoistic value → pro-environmental attitude → green patronage intention → green word-of-mouth behavior. ($a_2c_1d_1e_1$)	0.019	0.006	0.007	0.034

Figure 2. Model test results.

value ➢ pro-environmental attitude ➢ green patronage intention ➢ green word-of-mouth behavior [B = 0.037 (0.215 × 0.610 × 0.762 × 0.379), LLCI = 0.020, ULCI = 0.058 ($a_1b_1d_1e_1$)] was significant. Hypothesis 7 suggested that egoistic value, pro-environmental attitude, and green patronage intention collectively have triple mediating effects on the impact of HELC on green word-of-mouth behavior. As shown in Figure 2, the relationship between HELC ➢ egoistic value ➢ pro-environmental attitude ➢ green patronage intention ➢ green word-of-mouth behavior [B = 0.019 (0.260 × 0.265 × 0.762 × 0.379), LLCI = 0.007, ULCI = 0.034 ($a_2c_1d_1e_1$)] was significant.

Discussion

This study examined a research model that explored the relationship between HELC and green word-of-mouth behavior, mediated by biospheric and egoistic values, pro-environmental attitude, and green patronage intention as triple mediations. Seven hypotheses were formulated, and the findings provided support for most of the hypotheses, except for the impact of HELC on green word-of-mouth behavior.

The results of hypothesis 1 testing revealed a lack of significant association between HELC and green word-of-mouth behavior, contradicting the anticipated relationship and prior empirical studies that suggested green incentives would drive green behavior (J. Kim et al., 2020; P. Kumar et al., 2021; Preziosi et al., 2021). These findings do not support the notion that HELC directly influences green word-of-mouth behavior as a sustainable outcome, which is consistent with previous research based on the theory of planned behavior (de Barcellos et al., 2011; Echegaray & Hansstein, 2017; Essiz et al., 2022). One possible explanation is that

fostering green and sustainable values, beliefs, attitudes, and intentions among individuals is crucial for promoting green and sustainable behavior and consumption in the hospitality industry. This notion aligns with the causal model of environmental concern (Stern et al., 1995).

Hence, it can be argued that the influence of HELC on green word-of-mouth behavior is fully mediated by factors such as biospheric and egoistic values, pro-environmental attitude, and green patronage intention. This implies that HELC can have a significant impact on green word-of-mouth behavior through a series of consecutive intervening mechanisms. Therefore, drawing from these findings, it can be posited that in the hospitality industry, where green word-of-mouth behavior is of utmost importance, solely focusing on HELC is not sufficient as a solution. Instead, combining HELC with other mechanisms can result in a significant green outcome, specifically in terms of green word-of-mouth behavior.

Consistent with the expectations of the study, the relationship between HELC and green word-of-mouth behavior was found to be mediated by biospheric and egoistic values, supporting two and three hypotheses, respectively. These findings align with previous studies that have suggested the mediating role of biospheric and egoistic values in the relationship between external factors and customers' green and sustainable behavior (Ma et al., 2020; Martin & Czellar, 2017; Wu & Zhu, 2021). Furthermore, this study's findings make a noteworthy contribution by addressing a significant research gap highlighted by Torres-Moraga et al. (2021) in terms of examining the predictors of customers' values, such as biospheric and egoistic values. Therefore, it can be argued that HELC, by increasing customers' biospheric and egoistic values, can enhance their green word-of-mouth behavior. Put simply, if the goal is to increase the proportion of customers who hold strong biospheric and egoistic values toward green hotels, utilizing HELC can be an effective strategy to stimulate their green word-of-mouth behavior. In other words, by implementing HELC practices, green hotels can encourage customers to spread positive recommendations and endorsements about their environmentally-friendly initiatives. This can lead to a higher percentage of customers who prioritize ecological concerns and personal benefits, ultimately benefiting the reputation and success of the green hotel industry.

The findings of this study provide empirical support and confirmation for the hypothesized mediating role of pro-environmental attitude and green patronage intention in the relationship between HELC and green word-of-mouth behavior. This aligns with the hypotheses proposed in this study (hypotheses 4 and 5). The significant mediating effect of pro-environmental attitude is consistent with previous research conducted by scholars such as Davignon et al. (2022), Filimonau et al. (2022), and Wyss et al. (2022). These studies have also recognized the importance of pro-environmental attitude in influencing individuals' environmentally friendly behaviors. Similarly, previous scholars have identified green patronage intention as an outcome variable in their research (Filimonau et al., 2022; Rahman & Reynolds, 2019; Torres-Moraga et al., 2021). According to the causal model of environmental concern, intention is considered a key driver of individuals' actual behavior (Dietz et al., 1998; Stern et al., 1995). Therefore, the results of this study suggest that pro-environmental attitude and green patronage intention play a mediating role in the relationship between HELC and green word-of-mouth behavior. In summary, this study's findings contribute to the existing literature by providing empirical evidence for the mediating effects of pro-environmental attitude and green patronage intention in explaining the relationship between HELC and green word-of-mouth behavior. These findings support

the theoretical framework and highlight the importance of individuals' attitudes and intentions in promoting environmentally friendly behaviors.

Surprisingly, the findings of this study confirmed a triple mediation effect involving biospheric and egoistic values, pro-environmental attitude, and green patronage intention in the relationship between HELC and green word-of-mouth behavior. This contribution is particularly noteworthy as it has not been previously identified in the existing literature on the hospitality industry, shedding light on the causal model of environmental concern (Stern et al., 1995). This suggests that achieving green and sustainable outcomes among individuals is a complex phenomenon that requires several intervening mechanisms. In addition, the present study has demonstrated the consecutive effects, also known as a chain-of-effects, involving external factors, values, attitudes, intentions, and behaviors, which aligns with previous scholars (Filimonau et al., 2022; Rahman & Reynolds, 2019; Torres-Moraga et al., 2021). Therefore, in order to enhance customers' green word-of-mouth behavior, it is crucial to consider the interconnected factors of HELC, biospheric and egoistic values, pro-environmental attitude, and green patronage intention. These factors play a significant role in shaping sustainable behavior and promoting specific customer green actions.

To elaborate further, the concept of HELC can effectively increase customers' biospheric and egoistic values. As customers become more aware of the environmental impact of their actions, they develop a stronger sense of responsibility toward the environment (biospheric values) and recognize the personal benefits of engaging in green behaviors (egoistic values). The cultivation of biospheric and egoistic values, in turn, influences customers' pro-environmental attitude. This shift in attitude reflects a genuine concern for the environment and a willingness to actively support eco-friendly initiatives. Ultimately, as customers' pro-environmental attitude is stimulated, it leads to the development of green patronage intention. Consequently, the consecutive chain of factors – HELC, biospheric and egoistic values, pro-environmental attitude, and green patronage intention – culminates in customers engaging in green word-of-mouth behavior. They actively share their positive experiences and recommendations regarding environmentally friendly hotels with others, further promoting eco-label hotels as well as their sustainable practices.

Theoretical implications

The research offers significant contributions to the current literature. Firstly, previous studies have suggested that organizational green and sustainable initiatives and strategies, in accordance with the theory of planned behavior, may not necessarily result in improved green outcomes and behaviors (de Barcellos et al., 2011; Echegaray & Hansstein, 2017; Essiz et al., 2022). In simpler term, the theme of the value-action gap still exists and demonstrates that customers' overall values do not significantly result in green and sustainable behavior among individuals. However, contrary to previous research, this study's findings, which examined consecutive mechanisms based on the causal model of environmental concern, have determined that HELC has the ability to stimulate customers' green word-of-mouth behavior in the hospitality industry. This is achieved by activating specific factor-chains that involve values, attitudes, and intentions. This contribution has the potential to make a substantial impact on the existing literature within the hospitality industry by providing clarity on any controversies and conflicts surrounding the achievement of green customer

behaviors. Moreover, building upon this finding, the present study's findings also indicate that HELC can't directly influence green word-of-mouth behavior. This highlights the importance of recognizing that achieving green and sustainable behavioral outcomes involves a multifaceted process that encompasses various psychological and attitudinal factors. In other words, a stimulus such as HELC is crucial to activate customers' egoistic and biospheric values, leading to pro-environmental attitudes, intentions to patronize green products, and finally the occurrence of green word-of-mouth behavior.

Secondly, the present study makes a significant contribution by identifying the mediating role of biospheric and egoistic values in customers' green word-of-mouth behavior. This contribution is noteworthy because previous research has primarily focused on values as independent variables, neglecting their potential as mediators (Imaningsih et al., 2019; Nosrati et al., 2023; Torres-Moraga et al., 2021). However, this survey provides robust theoretical and statistical evidence to support the notion that biospheric and egoistic values play a crucial mediating role. Therefore, it can be asserted that the presence of an institutional and incentive structure is of utmost importance in stimulating the biospheric and egoistic values of hospitality customers, ultimately leading to the achievement of green and sustainable outcomes. Moreover, the present study addresses a research gap by shedding light on the differentiation between biospheric and egoistic values and their impact on customers' behavioral outcomes (Lee, 2011; Mansoor & Paul, 2022; Preziosi et al., 2021; Salem et al., 2023). This finding is surprising and aligns with previous research that emphasizes the significance of biospheric and egoistic values as influential factors in customers' environmental behavior (Imaningsih et al., 2019; Mansoor & Paul, 2022; Torres-Moraga et al., 2021). Through emphasizing the unique functions of these values, this research contributes to our comprehension of how HELC, as a motivating framework within the environmental domain, can stimulate customers' green word-of-mouth behavior.

Thirdly, previous research has suggested that both green patronage intention and green word-of-mouth behavior are two distinct criterion variables (Filimonau et al., 2022; Hameed et al., 2022; Torres-Moraga et al., 2021). However, this current study challenges that notion by considering the causal model of environmental concern and argues that green patronage intention can actually lead to green word-of-mouth behavior (Stern & Dietz, 1994; Stern et al., 1995). In simpler terms, the study suggests that having the intention to support environmentally friendly businesses is a crucial step before any behavior can occur. This finding is significant in the existing literature because it highlights the importance of intention in driving observable outcomes, which can be beneficial for the hospitality industry in encouraging green and sustainable behavior among customers.

Practical implications

The present study yields several valuable implications for practical application. First, it is crucial for management in the hospitality industry to ensure thorough implementation of HELC throughout the entire organization. This requires adequate training and enthusiasm among all resources and human capital to comply with HELC guidelines. For example, analyzing and benchmarking impactful case studies of successful HELC implementations can provide practical insights for both hoteliers and employees, enabling them to understand the entire process of HELC and effectively implement sustainable practices.

Additionally, implementing a well-defined code of ethics and rules, along with regular monitoring, can help mitigate the risk of greenwashing, a common practice among hoteliers (Chen et al., 2019). Clear and vivid communication of the results of these efforts can further enhance customers' biospheric and egoistic values and consequently stimulating them toward green word-of-mouth behavior. For instance, eco-label hotels can create visually appealing brochures and posters that prominently display eco-label information. Through this approach, hotels can effectively encourage customers to read and become aware of the concept of eco-label hotels and the potential benefits these initiatives offer to society and future generations in addressing environmental issues. For instance, sharing genuine green information and sustainable initiatives of the hotel through social media and the internet can enhance the credibility of the eco-label among customers.

Second, the complexity of HELC and its underlying mechanisms, as revealed by the study's findings and existing literature, highlights the importance for eco-label hotels as well as executive managers to regularly assess their customers' values, beliefs, attitudes, and intentions toward green hotel initiatives. The study has the potential to propose particular tools or approaches for consistently evaluating customer values, such as surveys, focus groups, or data analytics. Providing a framework for incorporating these evaluations into business strategies would be advantageous. These procedures are undeniably crucial because green word-of-mouth behavior is influenced by a chain of effects and factors stemming from HELC. Neglecting or overlooking any of these factors within these sequential mechanisms can discourage customers from engaging in green word-of-mouth behavior.

Third, considering the strong influence of hotel credibility on green word-of-mouth behavior and the potential for word-of-mouth to attract new customers to eco-label hotels, it is advisable for hoteliers to not only promote their brand to new customers but also provide incentives to loyal customers to choose eco-label hotels. This approach can stimulate and motivate customers' biospheric and egoistic values, leading to increased revenue for hotels and fulfilling customers' sustainability and green consumption needs.

Limitations and future research agenda

Similar to previous studies, this study also has limitations that should be addressed in future research. Although common method bias was checked and measured during both the pre-procedural and post-procedural phases, future research could employ longitudinal, time-lagged data, and supervisor ratings to mitigate any common method bias associated with cross-sectional surveys. Furthermore, this research was confined to the hospitality sector. As a result, it is recommended that future studies broaden their scope to include various industries such as manufacturing, education, food, and healthcare. This broader approach will enable a more comprehensive understanding of the relevance and applicability of the findings in different organizational contexts.

While the research model was developed based on the causal model of environmental concern, it would be advantageous for future research to incorporate moderating variables into these relationships. For example, previous research has highlighted the importance of both internal and external mechanisms in achieving environmental behavior, drawing from social cognitive theory (Nosrati et al., 2023). Therefore, it is recommended that future studies consider the external factor of

HELC moderated by customers' internal feelings, beliefs, and attitudes, as suggested by social cognitive theory. One potential moderating variable related to customers' internal beliefs that could be explored is green customer skepticism, which may significantly impact customers' doubts about environmental issues and practices, ultimately influencing their decision-making processes. Therefore, future studies could examine the role of green customer skepticism as a moderator in the relationship between HELC and biospheric and egoistic values, to assess any potential changes that may occur.

Additionally, earlier researchers have proposed that cultural values can have a substantial impact on shaping individuals' attitudes toward pro-environmental matters (Nosrati et al., 2023). Therefore, it would be advantageous for future studies to consider the inclusion of other individual values, such as hedonic and utilitarian values, as well as cultural values (e.g., long-term orientation, individualism, feminist orientation) as external factors in society, in order to better understand the impact of HELC on various constructs. Finally, while the current study focuses on respondents who had their first experience staying in eco-labeled hotels, it is advisable for future research to conduct a multigroup analysis comparing and investigating those with no experience to those with experience, in order to understand the differences between the two groups.

Conclusion

Upon identifying the existing research gap regarding the value-action gap, the present study aimed to investigate the influence of HELC on green word-of-mouth behavior. This was achieved by examining the multiple mediating mechanisms outlined in the causal model of environmental concern. Specifically, the study tested the triple mediating effects of biospheric and egoistic values, pro-environmental attitude, and green patronage intention between the impact of HELC and green word-of-mouth behavior. To collect data from customers of eco-label hotels in Hong Kong, a questionnaire-based survey was conducted using established measurement instruments from previous studies. Following the data collection procedure involving 304 customers, statistical analyses were performed to test the research hypotheses. The results revealed that HELC had a significant impact on green word-of-mouth behavior, fully mediated by biospheric and egoistic values, pro-environmental attitude, and green patronage intention. These findings shed light on the causal model of environmental concern and address the value-action gap by considering HELC as an institutional and incentive structure that precedes customers' values and subsequent behaviors. Overall, this study contributes to the understanding that psychological factors and sequential chain-of-effects can serve as a novel pathway to encourage customers' green and sustainable behavior.

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No potential conflict of interest was reported by the author(s).

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