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# Exploring tourists' ecocentric and anthropocentric attitudes towards green hotels: theory of planned behaviour and norm activation theory perspective

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**ABSTRACT**

This study examined the role of personal norms, ascribed responsibility, eco-friendly reputation, and perceived moral obligation in tourists' ecocentric and anthropocentric attitudes and behavioural intentions. This study also investigated whether tourists' ecocentric and anthropocentric attitudes play mediating roles. The researchers distributed 800 questionnaires to international tourists in Malaysia; of those, 393 usable responses were included for further analysis. We applied partial least squares-structural equation modelling to test the theory and path analysis. The findings reveal that personal norms, ascribed responsibility, and eco-friendly reputations have significant relationships with ecocentric attitudes. Additionally, ascribed responsibility has a positive relationship with anthropocentric attitudes. The results also indicate the mediating role of ecocentric attitudes in the relationships of personal norms, ascribed responsibility, and eco-friendly reputation with intention. The findings reaffirm the norm activation theory and the theory of planned behaviour.

## Introduction

According to the United Nations World Tourism Organization (2018), tourism businesses are essential to economic growth. The latest report suggests that tourism accounts for 10.4% of the world's gross domestic product (over 1 trillion USD) and represents one-tenth of the world's job sector; however, it also creates adverse environmental impacts. Global greenhouse gas emissions increased by around 8% in the form of 4.5 billion tons of $CO_2$, posing critical threats to the tourism industry in light of global warming (Camenisch & Rohr, 2018). Considering this phenomenon, dealing with environmental challenges could promote the longevity of the tourism industry (Cronjé & du Plessis, 2020; Saarinen, 2020).

Stakeholders in the tourism industry aim to ensure sustainable tourism growth while safeguarding the needs of upcoming generations (Kapera, 2018; Pan et al., 2018). As such, various green practices and environmental measures have been implemented by practitioners since the 1970s (Deraman et al., 2017; Fauziah et al., 2017).

The hotel industry is among the highest energy- and water-intensive industries in terms of its day-to-day operations (Okumus et al., 2019; Patwary, 2023). Many consumers prefer engaging in green hotel practices amidst growing apprehension about the environment and sustainability (Park & Lin, 2020). Hospitality managers can benefit from targeting this market segment (Raza & Khan, 2022). Many hotels have discovered that going green attracts

eco-conscious customers and increases their market share (Hameed et al., 2022; Yin et al., 2020).

Even though the hospitality industry has gained competitive advantages from green practices, most studies on sustainable consumption have focused on how consumers' decisions and actions impact the environment (Borah et al., 2021; Guo et al., 2020; Shurrab et al., 2019). Today, more than one-third of consumers' environmental ideals can be seen in their behaviours, such as their purchases of environmentally friendly products (Acampora et al., 2022). Researchers typically study green products as a group rather than considering individual items (Huang et al., 2020).

Researchers have identified some uncertainty in green consumption behaviour and the ambiguous aspects that change consumers' attitudes and purchase intentions (Arli et al., 2018; Klein et al., 2019). Some scholars demonstrated that customers' attitudes in the hospitality industry affect how they intend to act, whereas others showed that consumers' green attitudes and purchase intentions are not fully understood (Han et al., 2018; Pakpour et al., 2021).

Rawashdeh and Ababneh (2021) highlighted a significant aspect of tourists' perspectives regarding environmentally friendly products. The study revealed that 85% of tourists acknowledge the importance of efficient and ecological products. However, an intriguing dynamic emerges as these environmentally conscious travellers are reluctant to pay additional fees for such products due to a prevailing belief that hotels are primarily responsible for funding green initiatives (Martínez García de Leaniz et al., 2018).

Nonetheless, the literature offers a multifaceted viewpoint on this matter. While some tourists may be hesitant to pay the extra cost for green amenities, a growing body of evidence indicates that a notable segment of customers is willing to pay higher prices to support eco-friendly practices (Sharma et al., 2020; Uddin & Khan, 2016). These individuals value contributing to sustainable initiatives and are motivated by personal convictions, ethical considerations, and a sense of shared responsibility for environmental stewardship (Su et al., 2020). To comprehensively address this issue, authors must present both sides of the argument. That is, they must acknowledge the reluctance of some tourists to pay premiums for green products while also underscoring the existence of a promising market segment that readily embraces and values sustainable practices. Scholars have identified a wide gap between consumers' stated preferences and their actual purchases of environmentally friendly goods (Sharma et al., 2020).

Consumers' predictive attitudes may remain in environmental consumerism. For example, previous studies showed that attitudinal variables and environmental factors did not influence green purchase behaviour (Cheung & To, 2019; Rahman, 2018). Some practitioners hesitate to go green since studies have shown inconclusive findings about consumers' green product purchasing behaviour (Kumar et al., 2021).

Scholars have not entirely ascertained the influences of product category and the degree of consumers' intentions to support green products (Huy et al., 2022). Although previous studies have explored attitudes and their effect on behaviour (Raza et al., 2020; Xu et al., 2022; Zhang & Dong, 2020), empirical investigations of ecocentric and anthropocentric attitudes are scarce. Patwary et al. (2022a) examined ecocentric attitudes and anthropocentric attitudes only in the context of consumers' intentions to visit green hotels. They assessed consumers' knowledge of the environment, as well as their sense of responsibility towards the environment and altruistic behaviours. Furthermore, the relationships of attitude and behavioural intention with personal norms, ascribed responsibility, eco-friendly reputation, and perceived moral obligation have never been studied (Shin et al., 2022). The researchers, however, ignored the potential influences of personal norms, ascribed responsibility, eco-friendly reputation, and perceived moral obligation on tourists' attitudes and behavioural intentions.

Even though ecocentric and anthropocentric attitudes both relate to environmental concerns and preserving natural resources, they are associated with different objectives (Assaker, 2020). Thus, hoteliers and scholars should consider both when studying consumer attitudes. Adopting an ecocentric and anthropocentric mindset might strengthen a tourist's attitude and increase their behavioural willingness to spend extra money at a green hotel.

Further investigation is required to examine the factors influencing tourists' attitudes and behavioural intentions in hospitality and tourism settings. Specifically, these factors need to be evaluated in developing countries, such as Malaysia. Therefore, we examined the extent to which personal norms, ascribed responsibility, eco-friendly reputation, and perceived moral obligation determine consumers' ecocentric attitudes, anthropocentric attitudes, and intentions. We used both the norm activation theory

and theory of planned behaviour (TPB) to fill the current literature gap.

From a practical standpoint, this study directly addresses the factors influencing tourists' ecocentric and anthropocentric attitudes and behavioural intentions. The results will serve as a roadmap that hotel managers can use to align their services, amenities, and operational practices with the preferences and expectations of environmentally conscious travellers. By understanding the psychological drivers behind these attitudes, hoteliers can tailor their offerings to attract and retain this increasingly influential market segment.

Personal norms, ascribed responsibility, eco-friendly reputation, and perceived moral obligation should be considered when measuring tourists' attitudes and intentions to visit green hotels because they help determine whether a tourist is likely to choose a green hotel over a non-green one. Tourists who believe it is important to protect the environment are likely to choose a green hotel. This study explored the influences of personal norms, ascribed responsibility, eco-friendly reputation, and perceived moral obligation on tourists' ecocentric and anthropocentric attitudes and behavioural intentions. This research also examines the indirect effects of tourists' ecocentric and anthropocentric attitudes on the relationships of personal norms, ascribed responsibility, eco-friendly reputation, and perceived moral obligation with behavioural intentions.

## Literature review

### Theoretical underpinning

This study underpins the TPB (Ajzen, 1991) and norm activation theory (Schwartz, 1977) to support the integrated model and establish relationships among personal norms, ascribed responsibility, eco-friendly reputation, perceived moral obligation, ecocentric attitudes, anthropocentric attitudes, and behavioural intention. Personal norms and perceived moral obligation are central to the norm activation theory, which suggests that an individual's moral beliefs and sense of responsibility can activate a specific behaviour, such as staying in a green hotel. Ascribed responsibility and reputation can also be antecedents to the norm activation theory, as they contribute to a sense of responsibility and ultimately activate a behaviour. The TPB proposes that a person's attitude towards behaviour can influence their intention to

perform that behaviour. An attitude is a person's positive or negative evaluation of a behaviour, while an intention is a person's plan or willingness to perform that behaviour.

The TPB has been used to explain consumers' attitudes and intentions towards green consumption (Uddin & Khan, 2016; Patwary, 2023). Therefore, this study was designed to develop a research framework that includes several new variables underpinning the TPB that have not yet been studied simultaneously. Adding a predictor could help highlight substantial shifts in intention or behaviour (Ajzen, 1991).

Scholars, such as Thompson and Barton (1994), have cited two dimensions of attitudes – ecocentric and anthropocentric – that could further clarify environmental attitudes. Anthropocentric attitudes focus on how the environment affects human well-being, whereas ecocentric attitudes focus on the environment as a whole (Thompson & Barton, 1994). Individuals who possess either of these attitudes may positively view the environment and environmental phenomena in terms of consumption patterns, environmental protection, recycling/reuse, and daily habits (Yeh et al., 2021). Moreover, according to Kortenkamp and Moore (2001), people's attitudes may vary according to several factors. Thompson and Barton (1994, p. 149), for instance, suggested that ecocentric and anthropocentric attitudes differ in terms of the reasons individuals give for supporting conservation. This research used the TPB to determine the connection between ecocentric and anthropocentric attitudes and behaviours.

This study also considered factors that Schwartz (1977) proposed in the norm activation theory, as well as several other factors known to influence consumers' attitudes, such as personal norms, ascribed responsibility, eco-friendly reputation, and moral obligations. The central concept in the norm activation theory revolves around individual preferences or personal norms and two activating factors, namely ascribed responsibility and awareness of consequences (Patwary, Mohamed et al., 2022; Schwartz, 1977). Ascribed responsibility is exhibited when people take ownership of their actions (Patwary et al., 2020). Awareness of consequences proposes that a person's activities could adversely affect others, whereas personal norms relate to one's expectations of pro-environmental behaviour (Patwary et al., 2021; Patwary, Yusof et al., 2022; Schwartz, 1977). People who feel obligated to behave in a way that benefits the environment are likely to act accordingly

when they possess ascribed responsibility and recognise the consequences of their actions.

### Personal norms, ecocentric attitudes, and anthropocentric attitudes

Personal norms positively influence individual behaviour. For decades, researchers have found that clothing consumption is influenced by one's standards (Roos & Hahn, 2019). Nowacki et al. (2021) identified the most vital link between environmentally responsible travel decisions and personal norms.

The scale established in the New Environmental Paradigm is regularly used to measure attitudes and includes ecocentric and anthropocentric items (Dunlap & Liere, 1978). This scale categorises broad problem awareness into two groups. Anthropocentric and ecocentric attitudes are predicted to strongly associate with personal norms since humans are considered part of the ecosystem based on three orientations: personal norms, ecocentric attitudes, and anthropocentric attitudes. Self-transcendence ideals do not affect participants' adherence to personal norms or ecocentric or anthropocentric attitudes towards preserving the environment (Scopelliti et al., 2018).

Verplanken et al. (2020) found that individuals who strongly support self-transcendence ideals in the positive humanity-esteem condition demonstrated significantly stronger personal moral norms to protect the environment than those in the negative humanity-esteem condition. This was because the positive humanity-esteem condition emphasised the value of other people more than the negative humanity-esteem condition. However, the findings were also consistent with the effect on ecocentric attitudes among individuals whose values of self-transcendence were less important to them on an individual level.

An ecocentric attitude is an environmental worldview that places nature and the ecosystem at the centre of value and concern (Martin & Bateman, 2014). It asserts that all living and non-living entities in the environment have an intrinsic value independent of their utility to human beings. An ecocentric attitude emphasises the interconnectedness and interdependence of all elements within an ecosystem (Hage & Rauckiené, 2004). Meanwhile, an anthropocentric attitude is a human-centred perspective that views the environment primarily in terms of its value

and usefulness to human beings (Ho et al., 2022). Human interests and well-being are valued, while nature is evaluated based on its benefits to humans (e.g. resources, services, and aesthetics). This attitude prioritises economic growth, technological advancement, and human comfort over the preservation of ecosystems (Patwary, 2023).

Personal norms also strongly influence people's pro-environmental attitudes and behaviours (Schultz et al., 2016). According to Schwartz and Howard (1984), personal norms are emotions of a moral responsibility to do "the right thing," such as recycling or reducing pollution to protect the environment. In other words, personal norms are standards or regulations for one's behaviour; these differ from social norms, which are impressions of how socially significant individuals think or act (Cialdini & Trost, 1998). Personal norms serve as an internal compass to guide one's moral behaviour. Research shows that the stronger a person's personal norms towards pro-environmental attitudes, the closer an intention or behaviour is to becoming part of his or her norms.

Personal norms are important not only because they help predict pro-environmental attitudes and behaviour. According to Schwartz, a personal norm is a societal standard that has been internalised. Because social norm interventions draw attention to a societal norm, they might also activate personal norms. Thus, it is frequently demonstrated that personal norms strongly influence social norms' relationships with pro-environmental attitudes and behaviour (e.g. Doran & Larsen, 2016; Kim et al., 2018). Thus, the above arguments can be used as the foundation for the following hypotheses.

> H1: In visiting green hotels, tourists' personal norms are positively related to ecocentric attitudes.

> H2: In visiting green hotels, tourists' personal norms are positively related to anthropocentric attitudes.

### Ascribed responsibility, ecocentric attitudes, and anthropocentric attitudes

Previous researchers defined ascribed responsibility as the feelings of responsibility for the negative consequences of not acting prosocially (De Groot & Steg, 2009) or "an individual feeling of personal obligation towards the environment" (Kaiser & Shimoda, 1999). People with a highly ascribed responsibility tend to be highly pro-environmental in their attitudes, intentions, and behaviours. For example, consumers who think they are responsible for protecting the

environment are more likely than other consumers to participate in green consumption (Nyborg et al., 2006). They also tend to exhibit pro-environmental action when purchasing green products and services (Moslehpour et al., 2023).

There is a wide range of attitudes associated with a variety of values. From a theoretical perspective, value for nature, knowledge of the harm done to the object, and a sense of personal responsibility are among the factors that a person thinks about when considering the environment. That is, a person who places high value on their well-being will only care about environmental issues if they perceive a sense of harm to themselves and believe they are responsible for it (Verma et al., 2019). The above arguments can be used as the foundation for the following hypotheses

*H3: In visiting green hotels, tourists' ascribed responsibility is positively related to ecocentric attitudes.*

*H4: In visiting green hotels, tourists' ascribed responsibility is positively related to anthropocentric attitudes.*

### Eco-friendly reputation, ecocentric attitudes, and anthropocentric attitudes

Numerous advantages can be gained from eco-friendly reputations (Amran et al., 2021). Environmentally-focused organisations may increase their performance by, for example, reducing, reusing, and recycling waste and implementing more efficient operations (Su et al., 2020). Stakeholders regard environmental performance as a means of developing new, useful customer skills and products. Destination eco-friendliness is determined by travellers' aggregate evaluations of destinations based on their assessments of their environmental impacts. Such evaluations represent overall assessments of a destination's environmental reputation. Ecological and environmental activities at a destination are included in this category. Utilitarianism and pursuing human happiness are central to anthropocentric thinking (Ezedike, 2020). Anthropocentrism and ecocentrism diverge in terms of environmental attitudes. Consumers engage in environmentally friendly practices for the benefit of their well-being. Kalburan and Hasiloglu (2018) identified a strong link between anthropocentric and ecocentric attitudes regarding a company's environmental reputation.

The TPB suggests that a strong eco-friendly reputation aligns with positive attitudes, social norms, and perceived control over sustainable actions.

Additionally, the norm activation theory emphasises personal norms and moral obligations, indicating that tourists with an eco-friendly image feel compelled to adopt both ecocentric and anthropocentric attitudes to maintain their reputation and achieve positive outcomes. Therefore, integrating the TPB and norm activation theory provides a theoretical basis for assessing the relationship between tourists' eco-friendly reputation and their attitudes in green hotel settings. The above arguments can be used as the foundation for the following hypotheses:

*H5: In visiting green hotels, tourists' eco-friendly reputation is positively related to ecocentric attitudes.*

*H6: In visiting green hotels, tourists' eco-friendly reputation is positively related to anthropocentric attitudes.*

### Perceived moral obligation, ecocentric attitudes, and anthropocentric attitudes

TPB theorists argue that people who are aware of environmental destruction's effects have a moral obligation to do something about this issue. The focus on human repercussions leads to a human-centred moral requirement, whereas a focus on environmental effects leads to an ecocentric moral obligation (Bruskotter et al., 2019). Rahman and Reynolds (2019) employed an expanded the TPB, stating that environmental concerns affect attitudes towards ecocentric and anthropocentric views. A sense of moral obligation will affect one's intention to stay at green hotels.

Theoretically, as Fortuna et al. (2023) noted, anthropocentric beliefs may affect perceptions and actions concerning the environment and people's relationship with it in ways that contrast an ecocentric value orientation (Thompson & Barton, 1994). According to Thompson and Barton (1994), people with anthropocentric ideas are less likely to intend to safeguard the environment than those with non-anthropocentric beliefs if human values other than profit are at stake (Nordlund & Garvill, 2003). The TPB suggests that tourists who feel morally obligated are likely to develop favourable attitudes towards eco-friendly behaviours driven by their values (ecocentric) and desire to contribute to societal well-being (anthropocentric). The norm activation theory reinforces this, asserting that a strong sense of moral duty translates into positive attitudes towards environmentally responsible actions. In essence, these hypotheses propose that tourists' moral

commitment cultivates positive attitudes towards both ecocentric and anthropocentric behaviours in the context of green hotels. The above arguments can be used as the foundation for the following hypotheses:

> H7: In visiting green hotels, tourists' perceived moral obligation positively relates to ecocentric attitudes.

> H8: In visiting green hotels, tourists' perceived moral obligation positively relates to anthropocentric attitudes.

### Ecocentric attitudes and anthropocentric attitudes and intentions

Individuals' motivations are often propelled by their attitudes (Ajzen & Fishbein, 1980). Even if people have the same attitude about an object, the causes underlying this attitude could differ (Wassenaar et al., 2019). Individuals' feelings and behaviours in various situations can be affected by changes in their attitudes, both directly and indirectly (Ru et al., 2019). For example, customers may react differently according to the situations and the contexts in which they find themselves (Mancini & Antonioli, 2019). Studies have focused on the connection between green purchasing intentions and actual behaviour (Wang et al., 2021). Attitudes could positively or negatively affect self-reflection and self-reporting, depending on one's affect (emotion) and cognition (Loon & Bell, 2018).

In the 1860s, "anthropocentric" was first used to imply that people should be considered primary in all endeavours (Campbell, 1983). Anthropocentrism sees creatures as the most fundamental living things, whereas other forms of life are only valuable in proportion to their potential for human exploitation (Kortenkamp & Moore, 2001). Connell et al. (2009) defined ecocentrism as the perspective that nature should be protected because it has some inherent worth. Behavioural intention predictors like the TPB emphasise the significance of one's mental state as it relates to their behaviour (Ajzen, 1991). In other research, Kalafatis et al. (1999) used the TPB to evaluate consumers' intentions to purchase green products in Greece and the United Kingdom. Furthermore, Wan et al. (2021) stated that attitude and all the other aspects of the TPB positively impact recycling intention among college students. The TPB influences young customers' purchase intentions and can be used to accurately predict customers' intentions to buy green products (Yadav & Pathak,

2016). Thus, the following hypotheses were formulated.

> H9: In visiting green hotels, tourists' ecocentric attitudes are positively related to intention.

> H10: In visiting green hotels, tourists' anthropocentric attitudes are positively related to intention.

### Mediating roles of ecocentric attitudes and anthropocentric attitudes

Thompson and Barton (1994) devised a scale to measure specific attitudes towards environmental conservation and sustainability to distinguish between ecocentric and anthropocentric viewpoints. Ecocentric concerns focus on nature's intrinsic value, while anthropocentric beliefs focus on how environmental problems affect people.

To differentiate the ecocentric from the anthropocentric view, scholars stressed that a "motive" could be viewed as the ecocentric perception of the relationship between the individual and the environment (Asilsoy & Oktay, 2018). Anthropocentric values nature for its contributions to human well-being. At the same time, ecocentrics appreciate nature as a whole, including all its flora and fauna (Thompson & Barton, 1994). Authors further argue that ecocentric motivations are comparable to biospheric ideals, which are similar to an anthropocentric outlook in that they are concerned with the environment.

Previous research aligns with the TPB's principal presumption that people's behaviours are greatly influenced by their attitudes (Armitage & Conner, 2001). Recently, the TPB has been augmented with new constructions from various disciplines (Uddin & Khan, 2016; Patwary, 2023). In addition, previous studies have included many new constructs (Lin & Niu, 2018; Nguyen et al., 2019). The present study has also integrated additional constructs, including personal norms, ascribed responsibility, eco-friendly reputation, and perceived moral obligation, to assess consumers' green purchasing intentions.

Meanwhile, the mediating roles of ecocentric attitudes and anthropocentric attitudes are crucial when consumers decide whether to make a green purchase, as they will not forego a product's or service's advantages and functionality to preserve the environment. Attitudes have long been linked to predictors and behavioural intentions (Han & Kim, 2010). Thus, it is crucial to understand how ecocentric and anthropocentric consumer attitudes indirectly affect the connections which affect people's behavioural
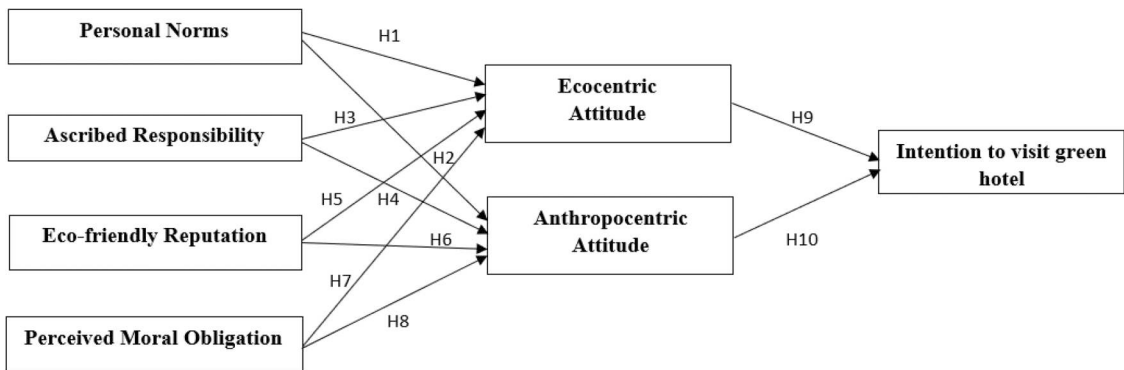
**Figure 1.** Visual representation of direct relationships.

intentions to visit green hotels. Based on the above literature, this study proposes the following hypotheses, as well as the research framework illustrated in Figure 1 below.

**H11**: *In visiting green hotels, an ecocentric attitude mediates the relationship between personal norms and intention.*

**H12:** *In visiting green hotels, an ecocentric attitude mediates the relationship between ascribed responsibility and intention.*

**H13:** *In visiting green hotels, an ecocentric attitude mediates the relationship between an eco-friendly reputation and intention.*

**H14:** *In visiting green hotels, an ecocentric attitude mediates the relationship between perceived moral obligation and intention.*

**H15:** *In visiting green hotels, an anthropocentric attitude mediates the relationship between personal norms and intention.*

**H16:** *In visiting green hotels, an anthropocentric attitude mediates the relationship between ascribed responsibility and intention.*

**H17:** *In visiting green hotels, an anthropocentric attitude mediates the relationship between an eco-friendly reputation and intention.*

**H18:** *In visiting green hotels, an anthropocentric attitude mediates the relationship between perceived moral obligation and intention.*

## Research method

### Sample size and data collection

The population of this study comprises international tourists who arrived in Malaysia in 2022. The sample was calculated using Krejcie and Morgan's (1970) table. The targeted sample size was to proceed with at least 384 responses, with a study population of over 1 million. Previous studies have used the same practice. Previous studies have distributed 100% more questionnaires than the original sample size (Cooper & Brown, 2017; Shamim et al., 2019). The study's sample size was deemed sufficient based on a previous study showing that the structural equation model of 200 to 400 respondents is acceptable (Oke et al., 2012). Recent studies in the Malaysian tourism context have also reported sample sizes between 200 and 500 (Hashemi et al., 2023; Mohamad et al., 2022; Patwary, Mohamed et al., 2022) (Figure 2).

In total, 800 questionnaires were distributed among international travellers arriving in Kuala Lumpur, Malaysia, because it is the only city in Malaysia listed in the top 100 tourists destinations globally (Euromonitor International, 2021). The questionnaires were distributed between May and September 2022. The data collection proceeded using paper-based questionnaires. Non-probability sampling was used, and questionnaires were distributed among international travellers in several tourists spots in Kuala Lumpur where international tourists' mostly gather likewise Kuala Lumpur International Airport 1 and 2, Bukit Bintang, Kuala Lumpur City Centre, Merdeka Square and Sunway Lagoon Theme Park. Convenient sampling was used because it enabled the researchers to reach out to respondents conveniently (Patwary et al., 2022a). During the distribution of questionnaires, a cover letter was provided to help respondents understand the study's purpose. The cover letter also informs the participants that all information they provide will be kept anonymous, and confidential and will not disclose their personal information.
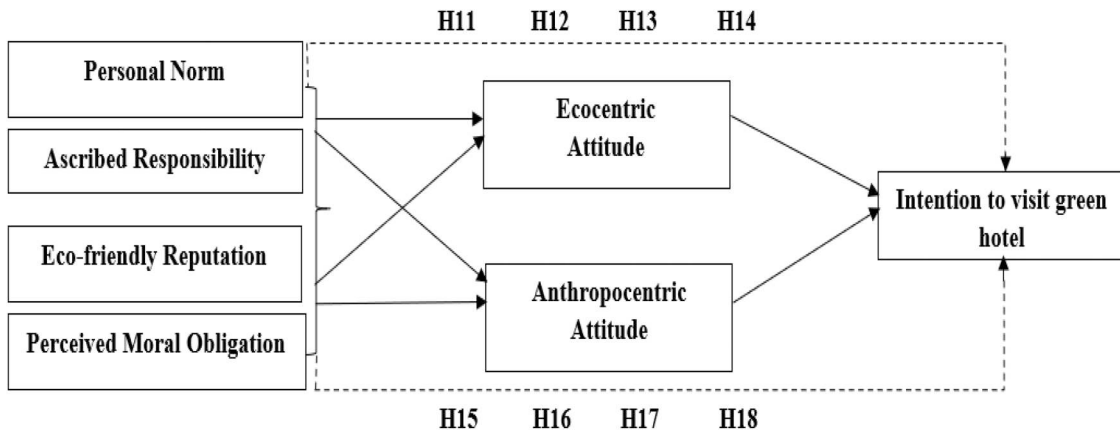
**Figure 2.** Visual representation of indirect relationships.

The information will only be used for study purposes. Moreover, Emerson (2015) contended that such a sampling technique should be used when a phenomenon related to the audience is not well researched and the researcher aims to develop new insights. The respondents were provided a small souvenir of a pen and key chain designed with Malaysian flag which costed 11 Ringgit Malaysia per set (approximately 2.38 USD).

We used one filtering question as a criterion while choosing the respondents; we asked them about the type of accommodation they like to stay in while visiting Malaysia, and we only chose those who prefer to stay in a hotel during their trip to Malaysia. Respondents took, on average, 10–15 min to complete the questionnaires. Of the 800 distributed questionnaires, 443 responses were obtained, translating to a response rate of 55.37%. This response rate is sufficient, as Ali et al. (2021) previously reported that the average response rate is 57.06% in South Asia and 58.95% in Malaysia. Moreover, they reported that the response rate in the hospitality industry tends to be around 53% to 60%. Later, 60 more questionnaires were excluded due to missing data; thus, 393 questionnaires were used for the data analysis.

## Measurement

The questionnaires used to collect data were adapted from previous studies. International tourists expressed their views on personal norms, ascribed responsibility, eco-friendly reputation, perceived moral obligation, subjective norm, ecocentric attitudes, anthropocentric attitudes, and intention on a seven-point

Likert scale (response options ranged from 1 = "strongly disagree" to 7 = "strongly agree"). Ascribed responsibility was measured using three items borrowed from Han et al. (2020), which possess good reliability and validity, as confirmed by Wu et al. (2022). An example item is "I believe that every traveller is partly responsible for environmental problems caused by the travel industry."

Personal norms were measured using four items taken from Han et al. (2020), which were later modified by Wu et al. (2022). An example item is "I feel that it is important to reduce the harm to Malaysia and the wider environment." Eco-friendly reputation was assessed using three questions adapted from Lee et al. (2010) and further modified by Thompson (2012) and Han and Yoon (2015; e.g. "In general, an environmentally responsible hotel has a good eco-friendly reputation").

To measure personal moral obligation, we used two items developed by Lam (1999), which were found to possess high reliability by Chen and Tung (2014). An example item is "Everybody is obligated to treasure natural resources." Furthermore, 10 items related to ecocentric attitudes and six items concerning anthropocentric attitudes were adapted from Thompson (1994). Two ecocentric attitudes items were deleted, as were three anthropocentric attitudes (as discussed in Section 4.2). The statements "It makes me sad to see natural environments destroyed" and "We need to preserve resources to maintain a high quality of life" were included for ecocentric and anthropocentric attitudes, respectively. Modifications were made to the wording of the measures for this study.

We borrowed three items modified by Han et al. (2010) to measure visit intention, which were previously adapted from Ajzen and Fishbein (1980). A sample item is "I am willing to stay at a green hotel when travelling." Items are reflective because they were designed to reflect the underlying construct or attribute being measured, and their responses are expected to be highly correlated. The measurements were considered reflective because they indicate underlying constructs or latent variables that cannot be directly observed.

### Demographic profile of the respondents

As shown in Table 1, the composition of gender was balanced, with 50.9% males and 49.1% females. Regarding age group, 22.6% of participants were 28–32 years old, 20.1% were 43–47 years old, and 18.8% were 33–37 years old. The remaining participants were 23–27 years old (15.3%), 38–42 years old (8.4%), and above 53 years old (4.8%). Among participants, 69% were married, 27% were single, and 4.1% were windows and divorced. Moreover, 55.7% of participants worked in the government sector, 30.5% worked in the private sector, 5.9% were students, 5.6% were employed, and 2.3% were homemakers or unemployed. Respondents' nationalities were categorised into sub-regions based on the United Nations World Tourism Organization.

The largest group of tourists were from the neighbouring countries in the Southeast Asia region (31.3%), followed by South Asia (20.4), Northeast Asia (14.8%), Northern Europe (10.7%), Oceania (6.6%), North America (5.1%), Western Europe (4.6%), the Middle East (2.5%), Southern/Mediterranean Europe (2.3%), North Africa (1.3%), and the Caribbean (0.5%).

**Table 1.** Profile of the respondents.

| Variable | Descriptions | Frequency | Percentage |
|---|---|---|---|
| Gender | Male | 194 | 50.9 |
| | Female | 187 | 49.1 |
| | Total | 393 | 100.0 |
| Age | 18–22 | 14 | 3.6 |
| | 23–27 | 60 | 15.3 |
| | 28–32 | 89 | 22.6 |
| | 33–37 | 74 | 18.8 |
| | 38–42 | 33 | 8.4 |
| | 43–47 | 79 | 20.1 |
| | 48–52 | 25 | 6.4 |
| | 53 and above | 19 | 4.8 |
| | Total | 393 | 100.0 |
| Marital status | Single | 106 | 27.0 |
| | Married | 271 | 69.0 |
| | Widow | 12 | 3.1 |
| | Divorced | 4 | 1.0 |
| | Total | 393 | 100.0 |
| Occupation | Government Sector | 219 | 55.7 |
| | Private Sector | 120 | 30.5 |
| | Self-employed | 22 | 5.6 |
| | Students | 23 | 5.9 |
| | Housewife | 7 | 1.8 |
| | Unemployed | 2 | .5 |
| | Total | 393 | 100.0 |
| Origin (Sub-region) | Northern Europe | 42 | 10.7 |
| | Western Europe | 18 | 4.6 |
| | Southern/ Mediterranean Europe | 9 | 2.3 |
| | North-East Asia | 58 | 14.8 |
| | South-East Asia | 123 | 31.3 |
| | Oceania | 26 | 6.6 |
| | South Asia | 80 | 20.4 |
| | North America | 20 | 5.1 |
| | Caribbean | 2 | .5 |
| | North Africa | 5 | 1.3 |
| | Middle East | 10 | 2.5 |
| | Total | 393 | 100.0 |

### Data analysis

PLS-SEM is the best method for hypothesis testing and causal chain research (Hair et al., 2019). With this method, it is possible to measure and account for observed variables, represent ambiguity in a latent variable's constructs, and account for casual relationships between latent and observed variables using structural equation modelling (SEM; Hair et al., 2020). Moreover, PLS-SEM with many latent variables can help correct measurement errors that often arise in tourism research (Henseler et al., 2015).

### Results

#### Outliers, multicollinearity, and normality

We followed Hubert's (2005) advice and removed multivariate outliers with a $p$-value of 0.001 or lower. Because there was only one data source, we took statistical and procedural steps to eliminate the possibility of common method variance (Podsakoff et al., 2012). Variables' measurements were implemented randomly for different factors, such as anthropocentric attitudes, ascribed responsibility, eco-friendly reputation, ecocentric attitudes, intention, perceived moral obligation, and personal norms (Podsakoff et al., 2012). Additionally, no overlap between constructs occurred owing to the use of a shortened version of the behavioural intention measurement (e.g. Patwary et al., 2022b). Harman's single-factor test was also performed, and the results showed

that only 16.54% of the total variance (63.23%) could be attributed to a single factor. The data did not share common method variance, as this value was less than 50% (Podsakoff & Organ, 1986).

The tolerance values, variance inflation factor (VIF), and correlations between the variables were analysed to ensure that the variables did not exhibit any signs of multicollinearity. The VIF was less than 5, which, according to Hair et al. (2020) and Patwary (2023), confirms that there was no multicollinearity.

Moreover, steps were taken to control common method bias (CMB). Firstly, this study ensured anonymity and assured the respondents that the information they provided would remain confidential. Secondly, the questionnaire was designed such that constructs had to be shuffled such that respondents could not differentiate between dependent and independent constructs (Podsakoff et al., 2012). CBM was ensured using multicollinearity in the context of SEM following Kock (2015). VIF values are used to identify or ensure CBM. All VIF values for the model used in this study were less than 3.3, which confirmed that CMB does not contaminate the model.

### Results of the assessment of the measurement model

Reliability and convergent validity were examined using loadings, composite reliability (CR), Cronbach's alpha, and average variance extracted (AVE) to evaluate the measurement model. Table 1 shows that factor loadings for all constructs were greater than 0.60. According to Hair et al. (2017), the CR and Cronbach's alpha values for a construct must be greater than 0.70. Moreover, AVE values for constructs should be greater than the threshold value of 0.50 recommended by Hair et al. (2017). Loadings between 0.705 and 0.932 indicate that all construct items are within acceptable ranges (Hair et al., 2020). Table 2 shows that the Cronbach's alpha (α) and CR values for all the constructs ranged from 0.711 to 0.946, which exceeded the suggested threshold value of 0.70 (Hair et al., 2017). Moreover, the AVE values for all constructs were higher than 0.5. Thus, the reliability and convergent validity of all the constructs were established.

Henseler et al. (2015) proposed using the heterotrait-monotrait (HTMT) ratio of correlations based on the multitrait-multimethod matrix to evaluate the discriminant validity for variance-based structural equation modelling. The HTMT ratio should be less than 0.85 (Kline, 2018). Table 3 presents the values of the HTMT ratio obtained for all constructs; the results show that all HTMT ratio values were less than 0.85.

### Results of the assessment of the structural model and hypothesis testing

Bootstrapping was utilised to test direct and indirect hypotheses as recommended by Rasoolimanesh et al. (2021) and Nitzl et al. (2016) (see Table 4). Table 4 and Figure 3 show that personal norms and ascribed responsibility are significantly and directly related to ecocentric attitudes. Therefore, H1 and H3 are accepted. However, eco-friendly reputation and perceived moral obligation does not influence ecocentric attitude; thus, H5 and H7 are not supported. Personal norm, ascribed responsibility and eco-friendly reputation were found to positively relate to anthropocentric attitudes; thus, H2, H4 and H6 are supported. However, perceived moral obligation is not significantly related to anthropocentric attitudes. Hence, H8 is not supported. Furthermore, ecocentric attitude and anthropocentric attitude have a positive relationship with intention. Thus, H9 and H10 are supported. Of the 18 hypotheses, nine were accepted, and nine were not (Table 4).

Table 4 and Figure 4 show that the mediating relationships of attitude with personal norm ($\beta = 0.057$; $p = 0.005$), eco-friendly reputation ($\beta = 0.047$; $p = 0.018$), and intention are positive. Therefore, H11 and H13 are accepted. However, the mediating role of attitude in the relationship between ascribed responsibility, perceived moral obligation with intention were not supported. Thus, H12 and H14 are not supported. The results also show the insignificant mediating role of attitude regarding personal norms, ascribed responsibility, eco-friendly reputation, perceived moral obligations, and intention. Therefore, H15, H16, H17, and H18 are not supported.

As shown in Table 5, this study calculated statistics such as the standardised root mean residual (SRMR) and the coefficient of determination ($R^2$) to evaluate the accuracy of the model (Henseler et al., 2015). In PLS, a good model has an SRMR of less than 0.08 (Hair et al., 2020). Meanwhile, a value of 0.10 for $R^2$ indicates contentment, whereas values of 0.045, 0.110, and 0.114 indicate a minimal impact (Hair et al., 2020). The model used in this study is

Table 2. Convergent validity.

| Constructs | Items | Lodgings | Cronbach's alpha | CR | AVE |
|---|---|---|---|---|---|
| Personal norm | PN1 | 0.892 | 0.879 | 0.914 | 0.726 |
| | PN2 | 0.888 | | | |
| | PN3 | 0.78 | | | |
| | PN4 | 0.844 | | | |
| Ascribed responsibility | AR1 | 0.906 | 0.913 | 0.945 | 0.851 |
| | AR2 | 0.93 | | | |
| | AR3 | 0.932 | | | |
| Eco-friendly reputation | EFR1 | 0.906 | 0.886 | 0.929 | 0.814 |
| | EFR2 | 0.894 | | | |
| | EFR3 | 0.906 | | | |
| Perceived moral obligation | PMO1 | 0.909 | 0.711 | 0.793 | 0.661 |
| | PMO2 | 0.704 | | | |
| Ecocentric attitude | EA1 | 0.841 | 0.839 | 0.878 | 0.546 |
| | EA2 | 0.803 | | | |
| | EA3 | 0.773 | | | |
| | EA4 | 0.821 | | | |
| | EA5 | 0.832 | | | |
| | EA6 | 0.766 | | | |
| | EA7 | 0.852 | | | |
| | EA8 | 0.822 | | | |
| | EA9 | 0.73 | | | |
| | EA10 | 0.741 | | | |
| Anthropocentric attitude | AA1 | 0.779 | 0.937 | 0.946 | 0.639 |
| | AA2 | 0.73 | | | |
| | AA3 | 0.705 | | | |
| | AA4 | 0.723 | | | |
| | AA5 | 0.748 | | | |
| | AA6 | 0.745 | | | |
| Intention | INT1 | 0.893 | 0.859 | 0.914 | 0.779 |
| | INT2 | 0.906 | | | |
| | INT3 | 0.848 | | | |

acceptable, as it presents moderate effects and moderate predictive relevance, as shown by the SRMR and $R^2$ values in Table 5 (Hair et al., 2019).

Stone-Geisser's validated redundancy ($Q^2$) value was employed to evaluate the criterion of predictive correctness (Geisser, 1974; Stone, 1974), as shown in Table 6. The values of the cross-$Q^2$ of all the endogenous constructs were greater than 0 ($Q^2 > 0$). Furthermore, Chin (2010) specified that the "effect size refers to the influence of the exogenous constructs on the endogenous constructs through the change of the R2 value." According to Cohen (2013), $f^2$ values of 0.35, 0.15 and 0.02 represent large, medium, and small effects, respectively. The results showed that most of the significant relationships had small effects ($0.15 > f^2 > 0.02$), while a few

predictors had a medium effect on the endogenous constructs ($0.35 > f^2 > 0.15$).

## Discussion

The findings show that personal norms and ascribed responsibility are significantly and directly related to ecocentric attitudes. While the surveyed tourists demonstrated strong personal norms, and ascribed responsibility, they were likely to simultaneously possess strong ecocentric attitudes. An eco-friendly reputation and perceived moral obligation are also essential elements that motivate consumers to be more environmentally responsible, which helps them make environmentally friendly decisions during trips (Han & Kim, 2010).

Table 3. Heterotrait-monotrait ratio criterion for discriminant validity.

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Anthropocentric attitude | | | | | | | |
| Ascribed responsibility | 0.195 | | | | | | |
| Eco-Friendly reputation | 0.121 | 0.363 | | | | | |
| Ecocentric attitude | 0.270 | 0.238 | 0.258 | | | | |
| Intention | 0.238 | 0.384 | 0.372 | 0.347 | | | |
| Perceived moral obligation | 0.113 | 0.405 | 0.217 | 0.090 | 0.200 | | |
| Personal norm | 0.064 | 0.147 | 0.141 | 0.242 | 0.222 | 0.043 | |

**Table 4.** Results of hypothesis testing.

| No. | Hypothesis | β | Std. Dev. | t-values | p- values | Supported |
|-----|------------|-----|-----------|----------|-----------|-----------|
| H1 | Personal Norm → Ecocentric Attitude | 0.020 | 0.056 | 0.353 | 0.724 | YES |
| H2 | Personal Norm → Anthropocentric Attitude | 0.198 | 0.058 | 3.443 | 0.001 | YES |
| H3 | Ascribed Responsibility → Ecocentric Attitude | 0.165 | 0.080 | 2.067 | 0.039 | YES |
| H4 | Ascribed Responsibility → Anthropocentric Attitude | 0.129 | 0.071 | 1.808 | 0.071 | YES |
| H5 | Eco-Friendly Reputation → Ecocentric Attitude | 0.067 | 0.054 | 1.245 | 0.213 | NO |
| H6 | Eco-Friendly Reputation → Anthropocentric Attitude | 0.165 | 0.053 | 3.145 | 0.002 | YES |
| H7 | Perceived Moral Obligation → Ecocentric Attitude | 0.024 | 0.056 | 0.425 | 0.671 | NO |
| H8 | Perceived Moral Obligation → Anthropocentric Attitude | 0.016 | 0.085 | 0.190 | 0.849 | NO |
| H9 | Ecocentric Attitudes → intention | 0.287 | 0.055 | 5.181 | 0.000 | YES |
| H10 | Anthropocentric Attitudes → Intention | 0.132 | 0.057 | 2.327 | 0.020 | YES |
| Indirect hypotheses | | | | | | |
| H11 | Personal Norm → Ecocentric attitude → Intention | 0.057 | 0.020 | 2.820 | 0.005 | YES |
| H12 | Ascribed Responsibility → Ecocentric attitude → Intention | 0.037 | 0.022 | 1.643 | 0.100 | NO |
| H13 | Eco-Friendly Reputation → Ecocentric attitude → Intention | 0.047 | 0.020 | 2.372 | 0.018 | YES |
| H14 | Perceived Moral Obligation → Ecocentric attitude → Intention | 0.007 | 0.017 | 0.412 | 0.680 | NO |
| H15 | Personal Norm → Anthropocentric attitude → Intention | 0.003 | 0.008 | 0.318 | 0.750 | NO |
| H16 | Ascribed Responsibility → Anthropocentric attitude → Intention | 0.022 | 0.016 | 1.357 | 0.175 | NO |
| H17 | Eco-Friendly Reputation → Anthropocentric attitude → Intention | 0.009 | 0.009 | 1.025 | 0.305 | NO |
| H18 | Perceived Moral Obligation → Anthropocentric attitude → Intention | 0.002 | 0.012 | 0.181 | 0.856 | NO |

Note: $*p \leq 0.001$ or $t \geq 3.29$; $**p \leq 0.01$ or $t \geq 2.58$; $***p \leq 0.05$ or $t \geq 1.96$; $\beta =$ path coefficient; ns = not significant

However, eco-friendly reputation and perceived moral obligation had no significant relationship with an ecocentric attitude. The moral obligation to reduce environmental impact in the tourism and hospitality industry did not lead to an ecocentric attitude among tourists. Nevertheless, previous studies showed that a moral obligation to reduce human-caused climate change leads to a positive attitude
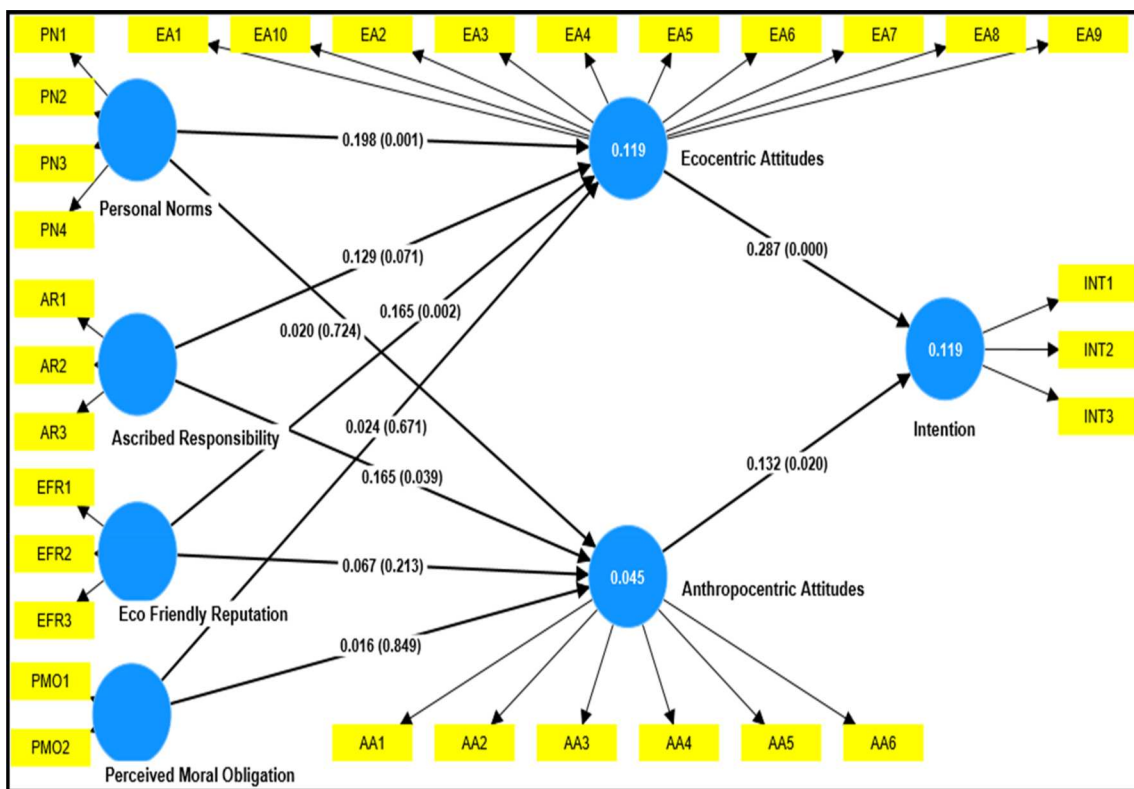


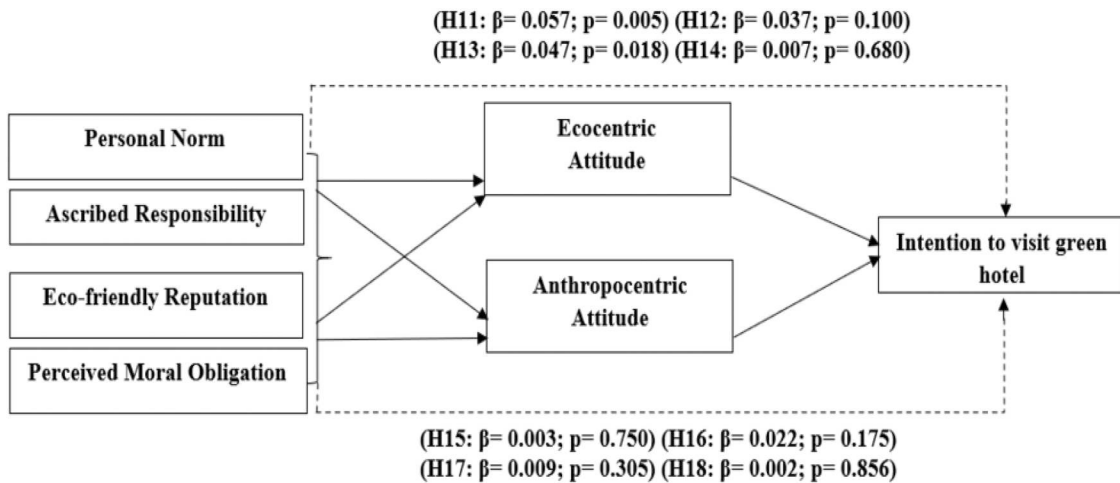**Figure 3.** Structural model of the study (direct relationships).

(H11: β= 0.057; p= 0.005) (H12: β= 0.037; p= 0.100)
(H13: β= 0.047; p= 0.018) (H14: β= 0.007; p= 0.680)

(H15: β= 0.003; p= 0.750) (H16: β= 0.022; p= 0.175)
(H17: β= 0.009; p= 0.305) (H18: β= 0.002; p= 0.856)

**Figure 4.** Structural model of the study (indirect relationships).

**Table 5.** Quality of the model.

| Variables | Adjusted coefficient of determination | Standardised root mean residual |
|---|---|---|
| Anthropocentric attitude | 0.045 (weak) | |
| Ecocentric attitude | 0.110 (moderate) | 0.057 (good) |
| Intention | 0.114 (moderate) | |

towards environmental protection (Chen, 2020; Haines et al., 2008). Personal norm, ascribed responsibility and eco-friendly reputation were found to positively relate to anthropocentric attitudes. Verma et al. (2019) showed that consumers mutually feel responsible for environmental protection and are interested in visiting green hotels while travelling. However, perceived moral obligation did not significantly relate to anthropocentric attitudes. Although previous studies showed that perceived moral obligation lead to a positive attitude towards environmental protection, the current findings suggest that an anthropocentric attitude is not influenced by it. According to Gribben and Fagan (2016), an anthropocentric attitude strengthens human-centric behaviour with little concern about

the environment, which could be the main reason that some hypotheses were not supported. Our research also shows that consumers' ecocentrism and anthropocentrism significantly affect their intentions to take environmental-friendly actions, which aligns with the findings of Chatterjee et al. (2022) and Chen et al. (2019). Patwary et al. (2022b) argued that consumers can have environmentally positive actions while they have an ecocentric or anthropocentric view.

Furthermore, Table 5 and Figure 4 indicate significant mediating relationship of ecocentric attitude regarding personal norms and eco-friendly reputation and intentions. However, ecocentric attitude was not found to mediate the relationship between ascribed responsibility and perceived moral obligation and intention. Moreover, the results do not indicate a mediating role of anthropocentric regarding personal norms, ascribed responsibility, eco-friendly reputation, perceived moral obligations, and intention. According to previous studies, attitude significantly mediates the effects of environmental variables and behaviour on environmental protection (Esmaeilpour et al., 2017).

**Table 6.** Predictive relevance and effect size.

| Factors | SSO | SSE | $Q^2$ (=1-SSE/SSO) | $f^2$ | Effect size |
|---|---|---|---|---|---|
| Anthropocentric attitudes | 3930 | 3644.258 | 0.073 | 0.087 | Small |
| Ascribed responsibility | 1179 | 1179 | | 0.154 | Medium |
| Eco friendly reputation | 1179 | 1179 | | 0.027 | Small |
| Ecocentric attitudes | 2358 | 2318.526 | 0.017 | 0.167 | Medium |
| Intention | 1179 | 1074.124 | 0.089 | | |
| Perceived moral obligation | 786 | 786 | | 0.023 | Small |

## Conclusion

In conclusion, this empirical study sheds valuable light on the intricate interplay of various psychological factors and their influence on tourists' attitudes and behaviours towards sustainable consumption in tourism. The multifaceted nature of these findings underscores the need for corporations to adopt a comprehensive approach when crafting their marketing strategies to engage and attract environmentally conscious tourists. The significance of personal norms, ascribed responsibility, and eco-friendly reputation cannot be understated, as they emerge as pivotal determinants shaping tourists' attitudes. Acknowledging and leveraging these factors can empower corporations to foster a stronger sense of ethical responsibility among potential customers, thereby fostering a more positive disposition towards sustainable products and services within the tourism sector. Moreover, the discernible impact of travellers' ecocentric and anthropocentric attitudes on their behaviours unveils the complex cognitive dynamics that drive decision-making processes. By integrating these insights into their marketing campaigns, corporations can tailor messages and offerings to resonate with the values and preferences of diverse segments of environmentally conscious travellers. As we stand at the crossroads of a rapidly changing global landscape, characterised by escalating environmental concerns and a growing demand for responsible tourism, the implications of this study extend beyond academic discourse. Practitioners, policymakers, and stakeholders in the tourism industry can harness these findings to drive impactful interventions that promote sustainable practices, stimulate economic growth, and safeguard our natural and cultural heritage for generations to come. In this regard, this research not only contributes to the scholarly discourse but also holds the potential to catalyze positive transformations in the way we approach sustainable tourism and consumption patterns.

## Theoretical contributions

This study contributes to the norm activation theory and the TPB by confirming the stimulating roles of personal norms, ascribed responsibility, eco-friendly reputation, and perceived moral obligation in explaining tourists' ecocentric attitudes, anthropocentric attitudes, and behavioural intention in Malaysia. This

research also shows that customers are likely to book a green hotel if they have an ecocentric or anthropocentric worldview. These findings support the TPB proposed by Ajzen and Fishbein (1980), which holds that consumers' intentions to engage in particular behaviours concerning specific products or services depend on their attitudes and other related factors.

This research contributes significantly to developing a new model based on SEM. It incorporates specific additional variables and expands upon the TPB and norm activation theory in their respective contexts. According to the results, personal norms, ascribed responsibility, eco-friendliness reputation, perceived moral obligation, and other factors significantly influence attitudes and intentions. Similar variables or theories can be used in future research to gauge consumers' sentiments and intentions.

## Practical implications

Hotel industry practitioners are unaware of the link between tourism and environmental issues and the role of consumers. Further, previous authors did not clarify whether consumers are willing to pay a premium to make environmentally conscious choices, as different countries show differences in consumers' orientations and behaviours regarding environmental protection.

This section highlights consumers' attitudes and behavioural intentions regarding green practices in the hotel industry, thereby offering practical implications for hotel managers. There is no single solution to finding eco-friendly services in hotels. Strategies for marketing environmentally friendly products need to consider that individual products can vary greatly in terms of their associated levels of participation, consumption dynamics, and features. Thus, managers should ensure that their marketing campaigns consider these criteria. Increasing the number of international visitors who stay in eco-friendly hotels requires changing the mindsets of tourists. It will further help practitioners develop comprehensive ecotourism packages that allow guests to engage in local conservation efforts, nature walks, and environmental workshops. It will also help to design and cultivate green spaces within hotel premises, which will feature native plants and habitats that attract local wildlife. This will allow guests to connect with nature and foster ecocentric attitudes. Hoteliers can also invest in renewable energy sources, such as

solar panels, wind turbines, and geothermal systems, to power hotel facilities. This would reduce hotels' carbon footprints and contribute to environmental preservation.

If hotel owners want to attract a wider range of international tourists, they should emphasise environmental concerns by advertising green activities and relevant services. This research takes a holistic and applied look at international travellers' growing interest in eco-friendly hotel options. The data can inform initiatives for encouraging out-of-country visitors to book eco-friendly lodgings.

### Limitations and future research directions

Despite our study's contributions, further research in this field is recommended, as our study has some limitations. First and foremost, we did not consider demographic factors or their relationships with the main research model. If specific demographic variables had been accounted for in this analysis, the results would have produced more significant factors and provided a better understanding of this topic. Future researchers should consider demographic aspects such as gender, age, race, and religion more thoroughly to gain a deeper understanding of tourists' preferences for ecologically responsible services.

Second, even if valid and reliable research tools and measurement scales are used, the questionnaires' internal validity could still be at risk. Since the survey focused on the views and experiences of foreign visitors to Malaysia, some of the answers may have been superficial, or the respondents may have lied. Therefore, future studies should use different techniques to address this issue by using a different quantitative or qualitative approach.

Third, it will become increasingly important for businesses and individuals to prioritise eco-friendly practices as Malaysia's economy grows. Therefore, it would be useful to integrate qualitative and qualitative methods to understand this problem better in Malaysia. Future researchers can investigate topics like the emergence of environmental protection cases in Malaysia and the persistence of related issues. New models can also be created to advance this field of study by conducting detailed interviews with practitioners and academicians.

### Disclosure statement

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