



Research article

Extension of planned behavioral theory to consumer behaviors in green hotel

Shahid Bashir^a, Muddasar Ghani Khwaja^b, Jamshid Ali Turi^{c,*}, Hira Toheed^d^a Business Studies Department, Namal Institute, Mianwali, Pakistan^b Department of Management Sciences, SZABIST, Islamabad, Pakistan^c Department of Management Sciences, Capital University of Science and Technology, Islamabad, Pakistan^d Department of Management Sciences, Bahria University, Islamabad, Pakistan

ARTICLE INFO

Keywords:

Environmental consciousness
 Green customer behavior
 Environment consciousness
 Perceived norms
 Green hotels
 Environmentally responsible lodging
 Business
 Economics
 Psychology
 Sociology
 Tourism

ABSTRACT

This study aims to contribute to the development of an extended theory of planned behavior to understand the indicators of consumer behavior. A conceptual framework highlighting four study constructs (i.e., personal norms, intention towards green hotels, environmental consciousness, and green consumer behavior) was tested using 394 general Malaysian lodging consumers. The findings indicate that to devise green branding strategies for the hotels, the managers must first consider how the environmental consciousness of consumers positively affects their personal norms and behavior towards green hotels. Second, consumers' personal norms and behavioral intention towards environmentally responsible lodging positively affect their green behavior. Third, Personal norms mediates the significant positive relationship between; environmental consciousness and behavioral intention towards environmentally responsible lodging of a consumer; and environmental consciousness and green consumer behavior. Lastly, behavioral intention towards environmentally responsible lodging mediates the significant positive relationship between a consumer's personal norms and green consumer behavior.

1. Introduction

The human life is observed to be threatened by environmental issues, such as air and water pollution, ozone depletion, farmland erosion and global warming (Hu et al., 2010; Chou et al., 2012; Jang et al., 2015). For the hotel industry, human behavior is regarded as the main solution to these environmental problems, and public concern for the environment has had a key influence on consumer purchase behaviors (Jang et al., 2015).

Several researchers have applied the theory of planned behavior to understand the indicators of consumer purchase behavior in the hotel industry. In this regard, one recent research trend is towards the green aspects of consumer behavior, as the general preference of individuals towards purchases of eco-friendly products has increased (Chan, 2013). This is because of their inclination to use eco-friendly products such as disposable toiletries and bath towels, clean bed sheets and quilt covers, and mineral water (Huang et al., 2014). Han et al. (2010) and Han and Yoon (2015) observed that the principal elements of the theory of planned behavior (i.e., attitude, subjective norms, and belief) positively

affect a consumer's intention to visit an environmentally responsible hotel; which turn affects their green purchasing behavior (Yadav and Pathak, 2017). On the other hand, several researchers have extended the theory of planned behavior to understand the indicators of consumer behavior. For instance, Chen and Tung (2014) and Choi et al. (2015) demonstrated that personal norms are linked to a consumer's self-concept and the feelings of moral obligation of environmentally conscious consumers to patronize green hotels. It may not just be an important person or group of people who will approve and support a particular way for consumers to act or conduct themselves regarding green hotels; the conduct may also be due to someone's self-created rules, beyond social norms. For example, a drug user who doesn't feel a moral obligation to protect the environment is more likely not to intend to visit a green hotel. It is, therefore, safe to assume that for a person visiting a green hotel, that person's behavioral intention hinges on his or her personal norms.

In the same way, Huang et al. (2014) have extended the theory of planned behavior by showing that green consumer behavior is influenced by not only a person's behavioral intention to visit green hotels, but also by his decisions regarding personal choices such as "Which

* Corresponding author.

E-mail address: jamshidump@gmail.com (J.A. Turi).

green hotel should I visit?" and "How much will I pay for a green hotel?" Social environmentalism intends to capture the power of consumers' beliefs about their society's role in protecting the environment by adopting environmentally conscious behaviors. Such belief is usually inspired by consistent feelings, tendencies and evaluations with regard to environmental activities (e.g., increases in environmental damage) (Huang et al., 2014). Therefore, these can motivate an empirical assessment of hotel visitors' behavior.

As consumers generally behave positively towards green hotels that exhibit environmentally focused attributes (Kwok et al., 2016), their environmental concerns can have a positive influence on their attitude toward green hotels, subjective norms, and perceived behavioral control (Chen and Tung, 2014). Also, their readiness to change (i.e., personal norms) to protect the environment can affect their green hotel visit intention (Rahman and Reynolds, 2016). Elements such as a consumer's personal norms and environmental consciousness must be incorporated to indicate their consumer behavior, especially considering that personal norms are an indispensable construct of consumers' behavioral intention to visit a green hotel (Chen and Tung, 2014; Choi et al., 2015) and that environmental consciousness is an indispensable construct of green consumer behavior (Huang et al., 2014). Nevertheless, as we expand our knowledge of green hotels, even while little individualistic research works exist, holistic research has yet to be conducted that incorporates both personal norms and environmental consciousness to indicate a consumer's behavior. This will eventually develop into an extension to the theory of planned behavior and enhance hotels' service offerings based on the target consumer's personal norms. It will also help hotels develop green marketing strategies so that people gain more knowledge to become environmentally conscious.

The relevant literature will be presented in the subsequent section. After that, hypotheses will be proposed, followed by an explanation of the study methodology. Afterwards, the outcomes of this empirical study

will be analyzed and discussed. Finally, both theoretic and applied ramifications will be presented.

2. Literature review

2.1. Extension of theory of planned behavior

To understand the indicators of consumer behavior, the Theory of Planned Behavior (TPB) is most often used as a theoretical base. In this theory, Fishbein & Ajzen (1975, 1980) propose that individuals control their socially relevant behaviors, and one driver of this behavior is their intention to engage it. In general, TPB is applicable to several related study issues comprising behaviors, behavioral intentions, attitudes, and beliefs (Ajzen, 1985). Attitude can be a sign of one's settled way of thinking or feeling about something. Subjective norm can be a sign of the social pressure one feels to perform or not to perform a behavior. Belief can be a sign of the difficulty or ease with which a person exhibits a specific behavior, and such persons' belief concerning the factors that can promote or hinder exhibition of the behavior. Nonetheless, in the hotel industry, TPB can be applicable to several other related study issues as well, comprising personal norms and environmental consciousness. The existing literature, as shown in Table 1, confirms such an application. For instance, Rahman and Reynolds (2016) suggest that a consumer's readiness to alter their personal norms to protect the environment can affect their green hotel visit intention. On the other hand, Chen and Tung (2014) suggests that a consumer's environmental concerns can exert a positive influence on their attitude toward green hotels, subjective norms, and perceived behavioral control. Therefore, both elements (i.e., the consumer's personal norms and environmental consciousness) must be incorporated into TPB to develop an extension of the theory, especially while considering that personal norms are an indispensable construct of consumers' behavioral intentions to visit a green hotel (Chen

Table 1. The researches on green hotels that contribute to extend TBP.

Author(S)	Study Methods	Statistical Test	Contribution to extend TBP
Han et al. (2010)	428 general U.S. lodging consumers participated in the study through a web based survey.	Structural Equation Modeling	Attitude, subjective norm, and perceived behavioral control positively affect consumer's intention to stay at green hotels. The paths between Attitude, subjective norm, and perceived behavioral control and intention did not statistically differ between consumers who actively practice eco-friendly activities and those who are not often engaged in environmentally conscious behaviors in their everyday lives.
Chen and Tung (2014)	559 Taiwanese consumers participated in the study through a web based survey via My3q.com.	Structural Equation Modeling	Consumers' environmental concerns indeed exert a positive influence on their attitude toward green hotels, subjective norms, and perceived behavioral control as well as their perceived moral obligation, which in turn influence their intention to visit green hotels as expected.
Huang et al. (2014)	458 hotel guests from Taiwan participated in the Survey	Structural Equation Modeling	Consumer's environmental protection consciousness positively affects their green consumer behavior.
Choi et al. (2015)	428 general U.S. lodging consumers, who were faculty members working at an institution of higher education in the Midwestern, participated in the study through a web based survey.	Structural Equation Modeling	Consumer's personal norms explain their decision-making processes regarding their intentions to visit a green hotel.
Han and Yoon (2015)	384 general U.S. lodging consumers participated in the study through a web based survey.	Structural Equation Modeling	Attitude, subjective norm, and perceived behavioral control positively affect consumer's intentions to Visit an Environmentally Responsible Hotel.
Kwok et al. (2016)	382 U.S. consumers who were at least 18 years old participated in the study through a web based survey via Qualtrics.com.	Structural Equation Modeling	Consumers generally behave positively towards environmentally focused attributes to visit at green hotels.
Rahman and Reynolds (2016)	400 U.S. consumers participated in the study through a web based survey via Amazon's Mechanical Turk (MTurk).	Structural Equation Modeling	Consumer's willingness to sacrifice for the environment affects their green hotel visit intention.
Yadav and Pathak (2017)	620 educated consumers of the urban areas in India participated in the study through a survey	Structural Equation Modeling	TPB fully supported the consumers' intention to buy green products which in turn influences their green purchase behavior.

and Tung, 2014; Choi et al., 2015), and environmental consciousness is an indispensable construct of green consumer behavior (Huang et al., 2014).

Green consumer behavior involves the use of product(s) that is/are environmentally helpful, ecological or that is/are environmentally protectable (Mostafa, 2007; Lee, 2009; Huang et al., 2014). According to Fishbein & Ajzen (1975 & 1980) one of the drivers that control individuals' socially relevant behavior is their intention to engage it. Therefore, behavioral intention has to be assessed to explain a consumer's behavior. For the hotel industry, promotion of the positive intentions of consumers is an important goal, as it can prompt their willingness and plans to either revisit the hotel or recommend it to others (Namkung and Jang, 2007; Han and Back, 2008; Choi et al., 2015). In this regard, the influence of the environment is recognized by the hotels (Lee et al., 2010), and green consumer behavior, derived from the hotel's intentions to benefit the environment, is observed to be acknowledged through consumer's behavioral intention towards green hotels (Stern, 2000; Choi et al., 2015). In line with this concept, the need for green hotels is increased; consequently, to develop an effective marketing strategy for the promotion of positive buying decisions, an understanding of green consumer behavior is indispensable (Han et al., 2010; Choi et al., 2015).

When describing a pro-environment behavior, the moral obligations expected from an individual is generally referred to as a personal norm (Ture and Ganesh, 2014; Choi et al., 2015). Moral obligation indicates that somebody feels responsible to perform a precise behavior ethically whenever he or she faces a moral choice (Beck and Ajzen, 1991; Leonard et al., 2004; Chen and Tung, 2014). To activate a personal norm, an individual must be aware of the level of threat his or her relevant behavior can engender in terms of resolving an issue (DeGroot and Steg, 2008; Choi et al., 2015). That is why personal norms are known to be the basis of a person's change from a having general interest in the environment to becoming pro-environment actor (Bratt, 1999; Stern, 2000; Choi et al., 2015).

Environmental Consciousness refers to behavior that reflects an individual's environmental commitment (Zimmer et al., 1994), and such behavior is usually inspired by the individual's consistent feelings and tendencies towards, and evaluations of, environmental activities, damage and rise (Huang et al., 2014). Huang et al. (2014) found that environmental consciousness positively affects green consumer behavior, which is an evidence of being motivated through an empirical assessment of hotel visitors' behavior.

2.2. The holistic model development

The term "holistic" is distinguished by our belief that the variables of this research (i.e., Personal norms, behavioral intention towards green hotels, environmental consciousness, and green consumer behavior) are intimately inter-connected and inexplicable without reference to the whole. Such inter-connection will cover not only the direct effects but the indirect or mediating effects as well. The reason to investigate indirect or mediating effect in the holistic model is the probability that any theoretical relationship could shrink upon the addition of other variable(s) to theory of planned behavior. Although, the existing practices within theory of planned behavior does not confirm any role of mediation, even while its principle independent constructs (i.e., attitude, subjective norms and perceived behavioral control) significantly influences behavioral intention, and the behavioral intention has a significant influence on the behavior. And one of the independent constructs (i.e., perceived behavioral control) significantly influences the behavior in the absence of the behavioral intention as well. Nevertheless, the possibility of mediation cannot be ignored in the context of current study. For that reason, various usual arguments can be considered as a base of study. For example, a consumer, considering a booking at any green hotel, often takes environmental precautions to ensure that the purchase decision meets his personal norms. Is this hotel eco-friendly? Will this hotel facilitate me with disposable toiletries and bath towels? Clean bed sheets

and quilt covers? And bottled mineral water? If the consumer has personal concerns related to these questions, his behavioral intentions towards that hotel can decrease and environmental consciousness can increase.

The first and second hypotheses were found to have not been studied in the existing literature. Nonetheless, to develop a holistic model, they are required to be studied in the context of the current research. Consequently, various common arguments can be considered as a base for study. For example, consumers can often be concerned about other peoples' reactions over their stay in green hotels. Though the rise of eco-friendly products has increased their convenience, they might still be caught up by the sheer variety of green hotels and in the illusion that "green hotels are just there to make more money". As the intention to patronize green hotels has likely become a moral obligation, consumers' behavior has become more personal, subject to their environmental views regarding a particular green hotel. When a consumer's personal norms are outweighed by their overall behavior towards green hotels, the stay in that hotel can be avoided. Therefore, the following hypotheses are proposed:

H1: There is a positive relationship between a consumer's environmental consciousness and their behavioral intention towards green hotels.

H2: There is a positive relationship between a consumer's personal norms and their green consumer behavior.

For the direct effect assessment, six hypotheses are proposed, out of which four are postulated on theoretical grounds which were developed already in the existing literature, but yet to be investigated in the given context of current study. These theoretical grounds are as follows respectively: First, personal norm is known to be a base of person's change from a general predisposition to pro-environment act (Bratt, 1999; Stern, 2000; Choi et al., 2015) (H3). Second, there is a significant positive relationship between personal norm and consumer's behavioral intention towards environmentally responsible lodging (Chen and Tung, 2014; Choi et al., 2015) (H4). Third, one of the dictators to control behavior is their intention to engage it (Fishbein and Ajzen, 1975, 1980), and that intention might be influenced when somebody feels environmentally responsible to visit a green hotel (Stern, 2000; Choi et al., 2015) (H5). Last, Environmental consciousness is an indispensable construct of green consumer behavior (Huang et al., 2014) (H6). Therefore, based on these stated theoretical ground, the following hypotheses are proposed:

H3: There is a positive relationship between consumer's environmental consciousness and their Personal norm.

H4: There is a positive relationship between consumer's personal norms and their behavioral intention towards green hotels.

H5: There is a positive relationship between consumer's behavioral intention towards green hotels and their green consumer behavior.

H6: There is a positive relationship between consumer's environmental consciousness and their green consumer behavior.

Preacher and Leonardelli (2004) suggest that a construct can be measured as a mediator once it carries the control of a given independent construct to a given dependent construct. In general, mediation can occur when the independent construct significantly influences the mediator; the mediator has a significant influence on the dependent construct; the independent construct significantly influences the dependent construct in the absence of the mediator; and the effect of the independent construct on the dependent construct shrinks upon the addition of the mediator to the model. Consequently, the significant influence of an independent construct (i.e., personal norms and environmental consciousness) on the mediator (i.e., personal norms and behavioral intention towards green hotels), and the significant influence of the mediator on the dependent constructs (i.e., behavioral intention towards green hotels and green consumer behavior) is already hypothesized (H1, H2, H3, H4, H5, and H6). Now, to investigate whether or not the effect of personal norms and environmental consciousness on green consumer behavior declines upon the addition of their behavioral intention towards green hotels to the model, H7, H8, H9 and H10 are proposed:

H7: Personal norms mediate the significant positive relationship between environmental consciousness and behavioral intention towards environmentally responsible lodging of a consumer.

H8: Personal norms mediate the significant positive relationship between environmental consciousness and green consumer behavior.

H9: Behavioral intention towards environmentally responsible lodging mediates the significant positive relationship between a consumer's personal norms and green consumer behavior.

H10: Behavioral intention towards environmentally responsible lodging mediates the significant positive relationship between environmental consciousness and green consumer behavior.

Figure 1 presents the holistic model of this study. It proposes that environmental consciousness is an indispensable construct of consumers' personal norms, behavioral intention to visit a green hotel and green consumer behavior (H1, H3 and H6); and personal norms is an indispensable construct of consumers' behavioral intention to visit a green hotel and green consumer behavior (H2 and H4); and behavioral intention to visit a green hotel is an indispensable construct of green consumer behavior (H5). Along with such a postulation, there are theoretical reasons to postulate that consumers' personal norms and behavioral intention to visit a green hotel perform an indirect or mediating role when they feel morally obliged to perform a precise behavior towards green hotels (H7, H8, H9 and H10). Therefore, for assessment purposes, this model is categorized into two sections: unmediated and mediated model assessment. The unmediated hypotheses are H1, H2, H3, H4, H5 and H6, whereas the mediated hypotheses are H7, H8, H9 and H10.

3. Method

3.1. Measures

To measure the constructs for this study, a survey questionnaire based on a 5-point Likert scale (1-strongly disagree, 2-disagree, 3-neutral, 4-agree, and 5-strongly agree) was planned. The questionnaire, including 23 items in total, was refined based on the reviews from hotel and business experts. The previous studies were used to assess personal norms (6 items), environmental consciousness (8 items), behavioral intention towards green hotels (4 items), and green consumer behavior (5 items).

To measure personal norms, items (e.g., “staying at a green hotel and using environment friendly products/services would make me a better person”, “instead of conventional hotel, staying at green hotel will make me feel as a morally obliged person”, and “saving environment should be the first priority for person like me”) validated in a study of Choi et al. (2015) were inspired and utilized. Likewise, to measure environmental consciousness, items (e.g., “while thinking of the industries that are

polluting the environment, I feel frustrated and angry”, “while Comparing two similar products, I tend to choose an environment friendly one, even though it has more price”, and “I will refuse to buy a product that can seriously damage the environment at the time of its usage”) validated in the previously published studies of Roberts et al. (1996), Robert and Bacon (1997), Straughan and Roberts (1999), Kim and Chung (2011), and Huang et al. (2014) were inspired and utilized. Likewise, to measure behavioral intention towards green hotels, items (e.g., “I am willing to stay at a green hotel when traveling”, and “I plan to stay at a green hotel when traveling”) validated in the previously published studies of Namkung and Jang (2007), Han and Back (2008), Han et al. (2010), and Chen & Tung (2014) were inspired and utilized. Likewise, to measure green consumer behavior, items (e.g., “It is acceptable for the hotel I am staying at to inform me that it does not actively provide disposable toiletries”, and “It is acceptable for the hotel I am staying at to inform me that they will not actively change the bed sheets and quilt covers during my stay”) validated in various previously published studies of Lee, (2009), Mobley et al., (2010), and Huang et al., (2014) were inspired and utilized. The detailed analysis of validity and reliability of the scales is presented in the next section.

3.2. Samples and data procedures

A survey was administered entirely online using the online marketing research company's system. Before the launch of the survey, a test run was also conducted with 50 useable questionnaires using the same online marketing research company. That test run was assessed using Cronbach's check, which reached 0.931. Then after careful review, a few minor modifications were made, and the final version of the survey was sent to 1600 general MALAYSIAN lodging consumers. These consumers were randomly selected from the company's database. The cover letter for the survey included explanations about the research objectives and green hotels. In addition, the participants were assured in the cover letter about the confidentiality of their responses. Consequently, 408 participants completed questionnaires (excluding 50 questionnaires in the test run). Fourteen responses were removed as extreme outliers or otherwise unprocessable forms, which yielded 394 complete and usable responses and an overall 24.6% response rate. The participants (Table 2) include 59.6% males and 40.4% females. Their average age was between 35 to 45 years. They have relatively high level of education (57.9% post-graduates). Most of them (76.4%) carry a yearly income level of more than 50,000 British Pounds. Lastly, most of them (48.5%) have stays inside green hotels at least 2 to 6 times in a year. The participants (Table 3) include 59.6% males and 40.4% females. Their average age was between 35 to 45 years. They have relatively high level of education

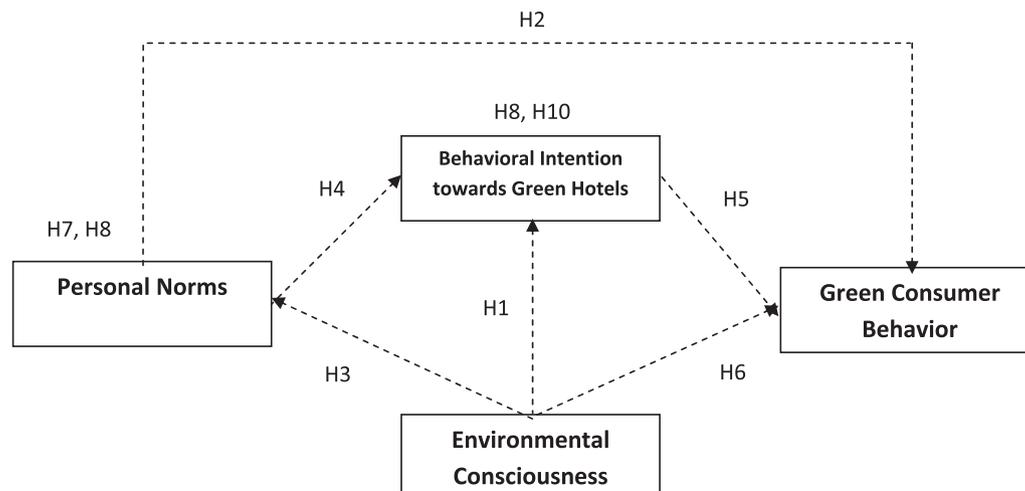


Figure 1. Conceptual model.

Table 2. Respondent's Demographic profile.

		Number	Percentage (%)
Gender	Male	235	59.6%
	Female	159	40.4%
Age (in years)	20–30	52	13.2%
	31–40	76	19.3%
	41–50	133	33.8%
	51–60	49	12.2%
	Above 61	84	21.5%
Education	Below undergraduate degree	141	35.8%
	Above undergraduate degree	253	64.2%
Income level (yearly)	Blow £30,000	9	2.3%
	£30,000–£50,000	84	21.2%
	Above £50,000	301	76.4%
Frequency of green hotel stay	Below 2 times in a year	72	18.3%
	2–6 times in a year	191	48.4%
	7–11 times in a year	74	18.7%
	Above 11 times in a year	57	14.5%

(64.2% above undergraduates). Most of them (76.4%) carry a yearly income level of more than 50,000 British Pounds. Lastly, most of them (48.5%) have stays inside green hotels at least 2 to 6 times in a year.

3.3. Findings

The data analysis was conducted through the use of SPSS 20 and AMOS 21. Before determining the causality, data normality was examined. The outcomes of data normality are provided in Table 3. As shown in the Table 3, the standard deviation of all the constructs is below 1, which is well within the acceptable range defined by Bryman (2012). Moreover, Table 3 shows that skewness and kurtosis value of all the constructs are within the acceptable range (between +2 and -2 for skewness and between +3 and -3 for kurtosis) specified by Kline (2015), which depicts platykurtic, mesokurtic and leptokurtic distributions. Therefore, the data contains no normality related issues.

Common method bias (CMB) or common method variance (CMV) test was conducted in order to determine either there are biased responses in the data set. Harmon's Single Factor Variance test was performed for the examination of CMB, in which all items (measuring latent constructs) are loaded into one common factor. The results revealed common variance of

32% which is less than the threshold value of 50%, meaning that there are no CMB concerns in the data (total variance for one factor is below 50%) (Podsakoff et al., 2003).

Gerbing and Anderson (1988) suggest that in order to decide whether the items are loaded on their particular scales or not, Confirmatory Factor Analysis (CFA) should be conducted. And a Structural Equation Model (SEM) should be conducted thereafter to examine the significant paths coefficients among latent variables. Accordingly, confirmation of CFA was done first. Table 4 presents the results of discriminate validity analysis. It suggests that all the variables were correlated to each other at less than 0.8 significant values. Moreover, the Average Variance Extracted (AVE) (>0.5) for all the variables was above squared correlation coefficients and Composite Reliability (C.R) was above 0.70, which is acceptable as per Lowry and Gaskin (2014). Therefore, the data used for this study was discriminantly valid.

Table 5 presents the overall CFA results. It suggests that four items (two items from environment consciousness and one item each from personal norms and green consumer behavior) on the scale of value were less than 0.60 and were, therefore, deleted. The rest of factor loadings were above 0.60 ($\chi^2 = 328.754$, $df = 146$, $p < 0.05$, $CFI = 0.96$, $TLI = 0.955$, $NFI = 0.931$, $RMSEA = 0.056$, $SRMR = 0.048$) and accepted for further measurement. According to Lowry and Gaskin (2014), a suitable fit to the data can be confirmed if all factor loadings are above 0.60, χ^2/df value is between 1 and 5, SRMR and RMSEA values are below 0.08, and CFI and TLI values are below 1. Therefore, CFA results provided strong basis for further measurement and structural statistical modeling.

The hypotheses testing were consequently done after attaining positive CFA and measurement model outcomes. Table 6 presents the summary of estimates for the unmediated and mediated model assessment. According to Hair et al. (2016) the structural equation model fit measures can be up to the required standards when the value of χ^2/df is between 1-5, NFI, AGFI, TLI GFI, IFI, and CFI values are less than 1 and RMSEA value is less than 0.08. Therefore, an adequate model fit was confirmed ($\chi^2 = 15.532$, $df = 3$, $CFI = 0.98$, $TLI = 0.973$, $GFI = 0.924$, $AGFI = 0.902$, $IFI = 0.981$, $NFI = 0.97$) but after the elimination of one path (EC → BI), indicating that a positive relationship between a consumer's environmental consciousness and their behavioral intention towards green hotels cannot be confirmed through this study, and we have to reject H1 therefore.

The RMSEA value (0.191) was found to be slightly higher. Kenny et al. (2014) argued that there is greater sampling error for a small df model, as they might have artificially large values for RMSEA. Therefore, it should not even be computed in such circumstances. Altogether, SEM extracted five paths (PN → GCB, EC → PN, PN → BI, BI → GCB and EC →

Table 3. Data normality (N = 394).

Variables	N	Min	Max	M	SD	Skewness	Kurtosis		
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Personal Norms (PN)	394	1.00	5.00	2.9553	0.8182	-.071	.129	.006	.263
Environmental Consciousness (EC)	394	1.00	5.00	2.8947	0.7995	.075	.129	-.471	.263
Behavioral Intention (BI)	394	1.00	5.00	2.2675	0.7879	.741	.129	.511	.263
Green Consumer Behavior (GCB)	394	1.00	5.00	3.9395	0.7192	-.644	.129	1.304	.263

Table 4. The summary of discriminate validity results.

Constructs	AVE	Construct Reliability	Mean	Standard Deviation	PN	EC	BI	GCB
PN	0.639	0.90	3.49	0.93	1			
EC	0.621	0.88	3.42	0.81	0.567**	1		
BI	0.611	0.86	3.40	0.96	0.518**	0.580**	1	
GCB	0.637	0.85	3.04	0.90	0.585**	0.701**	0.688**	1

Note: **p < 0.01 (two-tailed test).

PN = Personal Norms, EC = Environmental Consciousness, BI = Behavioral Intention, GCB = Green Consumer Behavior.

Table 5. The summary of overall CFA results.

Construct	Items	Loadings
Personal Norms (PN)	Staying at a green hotel and using environment friendly products/services would make me a better person (PN1).	0.80
	Instead of conventional hotel, staying at green hotel will make me feel as a morally obliged person (PN2).	0.83
	Saving environment should be the first priority for person like me (PN3).	0.84
	Regardless of what other people do, I feel staying at green hotels as a moral obligation (PN5).	0.78
	Saving energy as much as possible is my personal obligation (PN6).	0.74
	While thinking of the industries that are polluting the environment, I feel frustrated and angry (EC1).	0.75
Environmental Consciousness (EC)	While Comparing two similar products, I tend to choose an environment friendly one, even though it has more price (EC2).	0.78
	I will refuse to buy a product that can seriously damage the environment at the time of its usage (EC3).	0.85
	Environmentally certified products are always my first priority, even though it has more prices (EC4).	0.81
	I am concerned about my actions to improve the environment (EC7).	0.75
	I am often concerned about and absorb environmental knowledge and information (EC8).	0.60
	Behavioral Intention (BI)	I am willing to stay at a green hotel when traveling (BI1).
I plan to stay at a green hotel when traveling (BI2).		0.83
I plan to recommend green hotel to others (BI3).		0.79
I will make an effort to stay at a green hotel when traveling (BI4).		0.76
Green Consumer Behavior (GCB)	It is acceptable for the hotel I am staying at to inform me that it does not actively provide disposable toiletries (GCB1).	0.72
	It is acceptable for the hotel I am staying at to inform me that they will not actively change the bed sheets and quilt covers during my stay (GCB2).	0.84
	It is acceptable for the hotel I am staying at to inform me of the reuse of towels and bath towels (GCB3).	0.83
	It is acceptable for the hotel I am staying at to inform me of the reduction of water pressure during the night (GCB5).	0.69

Model fit statistics: $\chi^2 = 328.754$, $df = 146$, $p < 0.05$, $CFI = 0.96$, $TLI = 0.955$, $NFI = 0.931$, $RMSEA = 0.056$, $SRMR = 0.048$.

Note: The following items were eliminated from the model, as their scale value was less than 0.60:

While travelling, I bear in my mind about feeling obliged with the nature and environment (PN4); I follow the key points of recycling and classify recycled waste at home (EC5); I often purchase products that are over-packaged (EC6); It is acceptable for the hotel I am staying at to inform me that it does not provide bottled mineral water (GCB4).

GCB) ($P < 0.05$, $t\text{-value} > 1.96$) in terms of unmediated model assessment. The first extracted path indicates a positive relationship between a consumer's personal norms and their green consumer behavior, meaning that H2 is supported ($\beta = .724$, $C.R = 18.936$). Likewise, the second extracted path indicates a positive relationship between consumer's environmental consciousness and their Personal norm, meaning that H3 is supported ($\beta = .834$, $C.R = 14.413$). Likewise, the third extracted path indicates a positive relationship between consumer's personal norms and their behavioral intention towards green hotels, meaning that H4 is supported ($\beta = .161$, $C.R = 5.098$). Likewise, the fourth extracted path indicates a positive relationship between consumer's behavioral

Table 6. Summaries of Estimates – Direct Effect Model Assessment ($P < 0.05$, $t > 1.96$).

Paths	Standardized Coefficient (β)	S.E	C.R
PN → GCB	.724	.038	18.936
EC → PN	.834	.058	14.413
PN → BI	.161	.032	5.098
BI → GCB	.141	.048	2.945
EC → GCB	.517	.057	9.096
EC → PN → BI	0.391	.056	6.993
EC → PN → GCB	0.422	.055	6.914
PN → BI → GCB	0.157	.034	2.192

Model fit statistics: $\chi^2 = 15.532$, $df = 1$, $CFI = 0.98$, $NFI = 0.97$.

Note: One path (EC → BI) was eliminated from the model to confirm an adequate structural equation model fit, and EC → BI → GCB cannot be tested for this study therefore.

intention towards green hotels and their green consumer behavior, meaning that H5 is supported ($\beta = .141$, $C.R = 2.945$). Likewise, the fifth extracted path indicates a positive relationship between consumer's environmental consciousness and their green consumer behavior, meaning that H6 is supported ($\beta = .517$, $C.R = 9.096$).

To assess mediation model, [Barron and Kenny \(1986\)](#), [Judd and Kenny \(1981\)](#), and [James and Brett \(1984\)](#) proposed four steps process for determining mediation. Correspondingly, [Preacher and Hayes \(2004\)](#) proposed bootstrap method for statistical modeling. Preacher and Hayes emphasized that due to bootstrapping, the first three steps of mediation can be eliminated (i.e., $IV \rightarrow DV$, $IV \rightarrow MV$, $MV \rightarrow DV$), and it would be directly measuring the fourth step ($IV \rightarrow MV \rightarrow DV$). Bootstrapping method is also influential technique as it allows estimating complex theoretical models concurrently. In structural equation modeling (SEM), either covariance-based (CB-SEM) or variance-based (VB-SEM), bootstrapping technique is used for the determination of causality among constructs (specifically for indirect effects). [Lowry and Gaskin \(2014\)](#), [Hair et al. \(2010, 2013, 2016\)](#), and [Kline \(2015\)](#) have commented SEM using bootstrapping to be more significant and valid as compared to conventional [Barron and Kenny \(1986\)](#) approach. Considering the viewpoint and contemporary approach of structural equation modeling, bootstrapping technique in AMOS 21.0 was used by following the statistical principles of mediation proposed by [Preacher and Hayes \(2004\)](#). The outcomes shows the Standardized Coefficient values of 0.391, 0.442 and 0.157 respectively for EC → PN → BI, EC → PN → GCB, and PN → BI → GCB which means that personal norms mediate the significant positive relationship between environmental consciousness and behavioral intention towards environmentally responsible lodging of a consumer, and H7 is supported ($\beta = .391$, $C.R = 6.993$). Moreover, personal norms mediate the significant positive relationship between environmental consciousness and green consumer behavior, and H8 is supported ($\beta = .422$, $C.R = 6.914$). Furthermore, behavioral intention towards environmentally responsible lodging mediates the significant positive relationship between a consumer's personal norms and green consumer behavior, and H9 is supported ($\beta = .157$, $C.R = 2.192$). However, H10 cannot be accepted as the initial model fit of this study was confirmed after the elimination of one path (EC → BI) which is actually one of the bases to test that behavioral intention towards environmentally responsible lodging mediates the significant positive relationship between environmental consciousness and green consumer behavior. Therefore, H10 is rejected.

4. Discussion & conclusion

For the hotel industry, this study contributes to an extension of the theory of planned behavior. Such an extension is proposed based on the empirical understanding of consumer behavior towards green hotels, behavioral intentions towards environmentally responsible lodging, environmental consciousness, and personal norms. Its unmediated and

mediated model assessments affirmed the existence of path coefficients among latent variables. By acceptance of H2, H3, H4, H5 and H6, it was indicated that a strong environmental consciousness has personal norm high and behavioral intentions towards environmentally responsible lodging, and therefore, an obliging behavior towards green hotels. Although the results for H3, H4, H5 and H6 were consistent with previous studies (e.g., Stern, 2000; Han et al., 2010; Chen and Tung, 2014; Huang et al., 2014; Choi et al., 2015; Han and Yoon, 2015; Yadav and Pathak, 2017), the unique theoretical contribution of this study was the support of H2, which suggests that a consumer's personal norms enhance the consumer's behavior towards green hotels. The other unique theoretical contribution is the attachment of a mediator (i.e., behavioral intentions towards environmentally responsible lodging) to the theory of planned behavior through the support of H9.

It was found that a consumer's consciousness about a clean environment (positively influenced by personal norms) is essentially a predictor of their positive behavior towards green hotels. And, in so doing, the consumer's environmental consciousness facilitates the affiliations among their personal norms and behavior towards green hotels. The influence of a consumer's environmental consciousness over their behavior towards green hotels is supported by Huang et al. (2014) as well; for this, however, environmentally conscious consumers ought to have additional individualities, such as recycling and rarely purchasing over-packaged products.

For the hotel industry, this study provides various practical implications. For instance, hotel managers should develop their service offerings based on an understanding of environmental consciousness of their consumers i.e., to choose environmentally friendly products, improve environmental cleanliness, absorb environmental knowledge and information). This will help to enhance the consumer's personal norms (i.e., a desire to save the environment and energy, stay at a green hotel, and use environment friendly products/services), green intention (will, planning and efforts to stay at a green hotel when traveling, and recommending a green hotel to others), and green behavior (i.e., use of disposable toiletries, bed sheets, quilt covers, bath towels, reduced water pressure). Consequently, consumer testimonials should be promoted in green marketing campaigns by hotels, so their consumer's inclination to reject ordinary hotels will be enhanced. Polonsky (2011) and Huang et al. (2014) believe that a consumer-testimonial based green marketing campaign has become available marketing technique, not just a symbol or slogan. It can enhance the overall performance of a firm when environmentally conscious consumers acknowledge the implementation of green marketing promises.

5. Limitations and future studies

There are several limitations to this study. First, although several proposed relations were successfully tested, it doesn't parameterize all of the theory of planned behavior. The omitted constructs were consumer attitude, subjective norms, and perceived behavioral control, which can be tested in future studies for their interconnectivity with consumer's personal norms and their influence on consumers' environmental consciousness. Second, even though the extension of the theory of planned behavior is confirmed through the attachment of personal norms and environmental consciousness to the model, some researchers (i.e., Chen & Tung, 2014) believe that consumers' environmental concerns area predictor of their personal norms. Future studies could add this construct into the model to increase its explanatory power. Third, this study didn't split consumers based on the diverse stages of environmental consciousness. Such diversity might vary based on the kind of services the consumers receive from the hotels they stay in. A future study could investigate various consumer profiles in this regard. Fourth, this study used a self-selection sampling technique, in which the control of data collection is completely natural. The responses were received only from people in Malaysia which limits the ability to generalize the conclusions of this study. Future studies can include other specific segments to

enhance the model's validity. Lastly, it is hoped that the recommendations proposed in this study will be highly useful for academia and in practice.

Declarations

Author contribution statement

Shahid Bashir: Conceived and designed the experiments; Analyzed and interpreted the data; Wrote the paper.

Muddasar Ghani Khwaja: Conceived and designed the experiments; Analyzed and interpreted the data; Wrote the paper.

Jamshid Ali Turi: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Wrote the paper.

Hira Toheed: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Wrote the paper.

Funding statement

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Competing interest statement

The authors declare no conflict of interest.

Additional information

No additional information is available for this paper.

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