

Green Hotel Selection of Chinese Consumers: A Planned Behavior Perspective

Lei Wang, Philip Pong Weng Wong, Elangkovan Narayanan Alagas & Wei Ming Chee

To cite this article: Lei Wang, Philip Pong Weng Wong, Elangkovan Narayanan Alagas & Wei Ming Chee (2018): Green Hotel Selection of Chinese Consumers: A Planned Behavior Perspective, Journal of China Tourism Research, DOI: [10.1080/19388160.2018.1553743](https://doi.org/10.1080/19388160.2018.1553743)

To link to this article: <https://doi.org/10.1080/19388160.2018.1553743>



Published online: 12 Dec 2018.



Submit your article to this journal [↗](#)



View Crossmark data [↗](#)



Green Hotel Selection of Chinese Consumers: A Planned Behavior Perspective

Lei Wang ^a, Philip Pong Weng Wong^b, Elangkovan Narayanan Alagas^c
and Wei Ming Chee^d

^aSchool of Hospitality, Tourism and Events, Taylor's University, Subang Jaya, Malaysia; ^bSchool of Hospitality, Tourism and Culinary Arts, Taylor's University, Subang Jaya, Malaysia; ^cTaylor's business school, Taylor's University, Subang Jaya, Malaysia; ^dCity Business School, City University, Petaling Jaya, Malaysia

ABSTRACT

Most previous studies of the green purchase attitude–behavior gap of consumers have been rooted in either the theory of reasoned action (TRA) or the theory of planned behavior (TPB), giving often inconclusive or even controversial outcomes. It is, in fact, generally rare that researchers have focused on consumers' green purchase behavior towards the green hotel industry. The purpose of this study is to re-examine the relationship between consumers' green purchase attitudes, the subjective norm, perceived behavioral controls, and green purchase behavioral intention regarding the green hotel industry. This paper proposes a theoretical research model based on the TRA and the TPB. Two hundred and sixty-one valid questionnaires were collected to empirically test the hypotheses using the SPSS software package and Structural Equation Modeling. The results suggested that green purchase attitude and perceived behavioral control positively and significantly influence green purchase intention. The subjective norm was shown to influence green purchase intention negatively and significantly. Green purchase attitude was shown to partially mediate the relationship between subjective norms and green purchase intention. The practical and the theoretical implications of these results are discussed before an outline of the limitations of this study.

中国消费者的绿色酒店选择：计划行为理论的视角

摘要

过往大多数有关消费者绿色行为的研究基于理性行为理论和计划行为理论，这些研究往往带来不同的绿色消费者行为的结果，尤其是很少的研究关注在消费者对绿色酒店的购买行为。本文根据消费者计划行为理论三个组成成分：绿色购买态度，主观规范和对感知行为控制重新构建它们之间的相互关系。261份有效问卷得以收回，SPSS和建构方程模型用来进行数据分析。研究结果表明，绿色购买态度和感知行为控制积极的并且显著的影响消费者绿色购买意向，主观规范消极的并且显著的影响绿色购买意向，同时，绿色购买态度有部分居中调节的作用在主观规范和绿色购买意向之间。作者在文章的最后探讨了本文的实践意义，理论意义和局限性。

ARTICLE HISTORY

Received 8 June 2018
Accepted 2 October 2018

KEYWORDS

Green purchase attitude;
green purchase intention;
theory of reasoned action;
theory of planned behavior;
green hotel selection

关键词

绿色购买态度；绿色购买意向；理性行为理论；计划行为理论；绿色酒店选择

Introduction

Without doubt, public concern for environmental issues has gradually increased over the past two decades (Han, Hsu, & Sheu, 2010; Han & Kim, 2010), a concern that has led to great changes in the present environmentally-conscious marketplace (Han et al., 2010). A greater number of consumers now prioritize environmental issues and opt for greener alternative products and services that may benefit the planet (Hur, Kim, & Park, 2013), sometimes even paying extra for such products and services (Baker, Davis, & Weaver, 2013; Han et al., 2010). The growth of this green consumerism has naturally led to modifications in purchasing behavior, manufacturing processes, and operational procedures in various business segments (Han & Kim, 2010; Kuminoff, Zhang, & Rudi, 2010). In line with this general green trend, within the hotel industry consumer demands for greener establishments have also increased (Han et al., 2010). Many hotel consumers are aware of the waste and environmental damage caused by the excessive utilization of environmental resources of hotels (Han et al., 2010). For example, according to Manaktola and Jauhari (2007), 40% of consumers are willing to pay an extra 4 to 6% more to stay in hotels that implement pro-environmental programs. Consequently, marketers of hotel activities have turned out to be progressively proactive in promoting green practices and in developing pro-environmental programs (Han et al., 2010).

Green hotels are defined as ‘environmentally-friendly properties whose managers are eager to institute programs that save water, save energy and reduce solid waste, while saving money, to protect our one and only earth’ (Green Hotel Association, 2017). However, while this kind of definition is common in the literature and widely-accepted, there is still no specific universal standard with which to measure whether or not a hotel is to be considered a green hotel (Huang, 2016). There are, in fact, more than 800 different green certifications available with which to judge if a hotel merits being labeled as such (Green Hotel Association, 2017). This being the regrettable situation, it is still the overall objective of green hotels to reduce the environmentally-negative impact associated with excessive consumption of local and imported non-durable goods, energy and water, followed by emissions released to air, water and soil (Chen & Tung, 2014; Kasliwal & Agarwal, 2015).

Although, in the hotel industry, many studies have shown that consumers now have a positive attitude toward green hotel selection (Han et al., 2010; Kim, Palakurthi, & Hancer, 2012; Mas’od & Chin, 2014), the booking revenues for green hotels has, unfortunately, neither increased nor decreased (Chong & Verma, 2013; Zuriyati et al., 2014). Researchers have concluded that this phenomenon is caused by consumers’ green attitude–behavior gap (Akehurst, Afonso, & Gonçalves, 2012; Han & Kim, 2010; S.-Y. Kim et al., 2012; Mas’od & Chin, 2014; Young, Hwang, McDonald, & Oates, 2010; Zuriyati et al., 2014). This green attitude-behavior gap implies that even though consumers claim that they are concerned about environmental problems, their purchasing behavior towards green hotel selection does not reflect this concern (Mas’od & Chin, 2014; Zuriyati et al., 2014). Therefore, to overcome this obstacle, many researchers have adopted the TRA (Ajzen & Fishbein, 1975) and the TPB (Ajzen, 1991) as models to investigate the relationship between consumer green purchase attitudes and intentions (Aman, Harun, & Hussein, 2012; Chen & Tung,

2014; Han et al., 2010; Han & Yoon, 2015; Levine & Strube, 2012; Paul, Modi, & Patel, 2016; Rezai, Teng, Mohamed, & Shamsudin, 2012; Zhou, Thøgersen, Ruan, & Huang, 2013).

Unarguably, the most popular theories used in studies on marketing are the TRA and the TPB. These are both typically used as models for predicting consumer purchase intention and behavior (Aman et al., 2012; Chen & Tung, 2014; Paul et al., 2016). However, some researchers have argued that these two theories have over-dominated the limited number of green studies that embrace any theoretical lens (Myung, McClaren, & Li, 2012; Rahman & Reynolds, 2016). The original framework of these theories postulated that the independent predictors, being: attitude, the subjective norm, and perceived behavioral control, were independent of one another and only had the potential to predict behavioral intention separately (Ajzen, 1991; Ajzen & Fishbein, 1975, 1977, 1980).

It should be noted here that some studies have, also, only shown results that were inconsistent with the original theoretical framework. Tarkiainen and Sundqvist (2005), for instance, argued that there is a persistence in using subjective norms and perceived behavioral controls as predictors to forecast consumers' green purchase intention/behavior. Many prior studies confirmed that subjective norms have a non-significant or insignificant relationship with green purchase intention (Chan & Tsang, 2011; Leonidou, Leonidou, & Kvasova, 2010; Paul et al., 2016; Sinnappan & Rahman, 2011; Tarkiainen & Sundqvist, 2005). Similarly, Tarkiainen and Sundqvist (2005) and Paul et al. (2016) indicated that perceived behavioural control cannot lead to consumers' green purchase intention. The results of some studies have also shown that attitude plays a major mediating role in the relationship between subjective norms and purchase intention/green purchase intention (Chang, 1998; Han et al., 2010; Tarkiainen & Sundqvist, 2005). All of the results of these empirical studies have stood in contrast with studies dependent on models originating with the theoretical frameworks of the TRA and the TPB. Considering this lack of agreement in the current literature, this research attempts to provide a clearer view on the role of attitude, subjective norm and perceived behavioral control for a better understanding of green hotel consumers in order to predict their intention towards green hotel selection.

Furthermore, according to Handique (2014), most previous studies related to green purchase behavior are written from the perspectives of the US and other western countries. Naturally, such results may not be appropriate for non-western settings and may not help with an understanding of consumers' green purchase patterns in the green hotel industry elsewhere. This is coupled with a distinct lack of quantifiable studies related to green purchase behavior towards green hotel selection in the literature generally (Chong & Verma, 2013; Y. J. Kim et al., 2012). Although many researchers have conducted investigations into general environmental behaviors, it is difficult to broaden their findings to apply to other green products and services, such as green hotel selection (Ramayah, Lee, & Mohamad, 2010). This paper, therefore, re-examines the validity of the uses of the theories of reasoned action and planned behavior to explain the green purchase intention of consumers towards green hotel selection in China. The results of this study promise to provide some new insights on consumers' green purchase intention towards green hotel selection from an Asian perspective.

Theoretical background and hypotheses development

The underpinning theory

This research proposes a theoretical research model (See [Figure 1](#)) based on the TRA (Ajzen & Fishbein, 1975) and the TPB (Ajzen, 1991). As stated above, in the marketing literature related to consumer general/green purchase behavior, these two theories are still considered the most popular predictors of consumer purchase, generally (Aman et al., 2012; Chen & Tung, 2014; Han et al., 2010; Paul et al., 2016; Rezai et al., 2012). According to Han et al. (2010), intention is defined as an individual's cognitive motivation to utilize the effort in implementing a specific behavior. In terms of marketing, intention is the single most important predictor of an individual's actual behavior (Ajzen & Fishbein, 1975) and is considered a precursor and the best predictor of actual behavior (Chen & Tung, 2014; Paul et al., 2016). Intention also has a high reliability for predicting the relationship between the general purchase behavior and the green purchase behavior of a consumer (Han, Hsu, Lee, & Sheu, 2011; Han et al., 2010; Paul et al., 2016; Rezai et al., 2012; Teng, Rezai, Mohamed, & Shamsudin, 2011).

Furthermore, there are three variables used in the TPB to predict purchase intention and behavior: attitude, subjective norm, and perceived behavioral control (Ajzen, 1991). Both variables, attitude and subjective norms (toward behavioral intention), correspond with behavior and normative foundation, and belief, in the theory of reasoned action (Han & Kim, 2010). Attitude is defined as the extent to which an individual has a positive or negative evaluation of a particular behavior (Ajzen, 1991), while the subjective norm is defined as the interpreted social pressure to act out the behavior in question (Ajzen, 1991). Paul et al. (2016) argued that the TRA is usually used to analyze non-routine thinking decisions: in other words behavior that requires critical deliberation, as it is generally considered that the behavior of most consumers is under the control of their own volition and intention (Ajzen & Fishbein, 1980). Consumers who have a high degree of control of volition can be led to make purchases

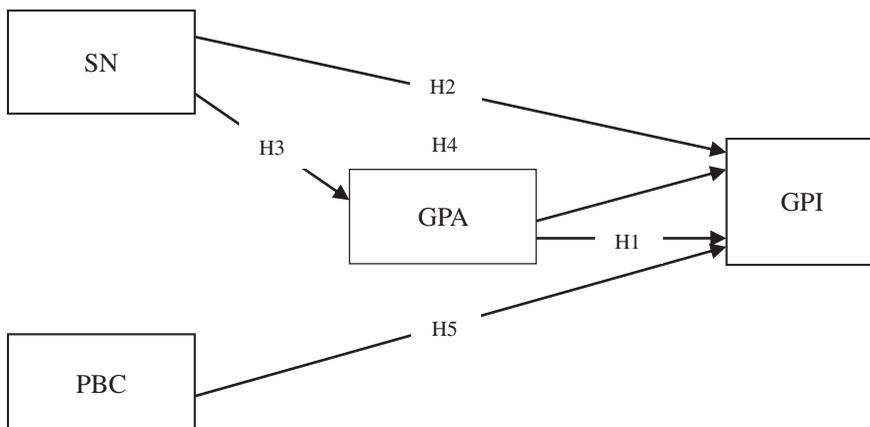


Figure 1. Theoretical research model.

Note. Subjective norm (SN). Perceived behavioral control (PBC). Green purchase attitude (GPA). Green purchase intention (GPI).

reasonably, after considering alternatives. Many researchers have utilized the TRA to predict consumer behaviors in green marketing (Aman et al., 2012; Chen, 2013; Coleman, Bahnan, Kelkar, & Curry, 2011; Vazifehdoust, Taleghani, Esmailpour, Nazari, & Khadang, 2013; Zuriyati et al., 2014). However, the TRA emphasizes purely volitional control and fails to address the possession of requisite opportunities and resources (Paul et al., 2016). Ignoring consumer predispositions and non-volitional factors for determining consumer behaviors calls into question the applicability of the TRA (Han et al., 2010; Paul et al., 2016).

The TPB emphasizes that consumer behavior cannot be seen as being purely based on volitional factors (Paul et al., 2016). The aspect of non-volitional control of the factor of perceived behavioral control was, therefore, incorporated into the TPB to extend the boundaries of the TRA, being since called *perceived behavioral control* (Ajzen, 1991). According to Ajzen (1991), perceived behavioral control is defined as the judged effortlessness or difficulty in performing a behavior. Perceived behavioral control should have no influence on the relationship between intention and behavior if the particular behavior is under full volitional control; otherwise perceived behavioral control has a moderating role between the intention–behavior link when the behavior is not under full volitional control (Paul et al., 2016). Therefore, the TPB enables the investigation of the effects of personal determinants and social environment, as well as allowing for the effect of non-volitional determinants on intention (Han et al., 2010; Paul et al., 2016). This development in the TPB had the effect of improving the purchase intention model's predictability for consumer behaviors (Paul et al., 2016). Many researchers have, consequently, utilized the TPB as a model for predicting green purchase behavior (Chan & Tsang, 2011; Chen & Tung, 2014; Chiou, 1999; Han et al., 2010; Han & Yoon, 2015; Levine & Strube, 2012; Paul et al., 2016; Rezai et al., 2012; Tarkiainen & Sundqvist, 2005; Zhou et al., 2013).

Green purchase attitude

The behavioral literature reveals a significant positive relationship between attitude and intention/behavior in the field of social science marketing (Coleman et al., 2011; Han et al., 2010; Han & Yoon, 2015; Paul et al., 2016; Vazifehdoust et al., 2013; Zakersalehi & Zakersalehi, 2012; Zuriyati et al., 2014). According to Ajzen (1991), attitude is the degree to which a person has a favorable or unfavorable evaluation of the behavior in question. Furthermore, attitude includes judgement on whether the given behavior under consideration is good or bad and whether or not the actor wants to perform the behavior (Paul et al., 2016). Attitude can, therefore, be said to represent an individual's consistently favorable or unfavorable evaluations, feelings and tendencies towards any given behavior or ideas (Aman et al., 2012). Attitude is, effectively, the psychological emotion and the positive or negative evaluation that arises when an individual engages in certain behaviors (Chen & Tung, 2014). When individuals have a more positive attitude, it follows that their behavioral intention will be more positive (Ajzen & Fishbein, 1980; Chen & Tung, 2014). In other words, an individual's positive attitude towards a certain behavior strengthens his/her intention to perform that behavior (Han et al., 2010).

More specifically in the context of green marketing, the observation that there is a positive relationship between consumers' attitudes and their behaviors has been established across many studies (Aman et al., 2012; Chen & Chai, 2010; Chen & Tung, 2014; Han et al., 2010; Lee, 2008; Levine & Strube, 2012; Paul et al., 2016; Sinnappan & Rahman, 2011; Vazifehdoust et al., 2013; Zhou et al., 2013; Zuriyati et al., 2014). According to Lee (2008), green purchase attitude is defined as a person's value judgement, drawing upon cerebral faculties, about the importance of green products. Levine and Strube (2012) argued that prior research into green purchase attitudes showed, perhaps unsurprisingly, that individuals generally claim that they are environmentally aware. Through purchasing environmentally friendly products or services, such as products with recyclable packaging or through properly disposing of non-biodegradable garbage, consumers can contribute significantly to improving the quality of the environment (Chen & Chai, 2010). Consumers also claim to recognize the seriousness of environmental problems which are possibly caused by an excessive use of energy and non-durable natural resources, ample supplies of foods and products, environmentally unfriendly production processes, and environmental disasters. Indeed, an increasing number of individuals are aware of environmental issues and the limited nature of natural resources (Vazifehdoust et al., 2013). This environmental awareness instills in the individual a positive attitude towards pro-environmental activities, and encourages individuals to more frequently engage in pro-environmental behaviors in their daily lives (Han et al., 2011; Vazifehdoust et al., 2013).

Many studies have shown that the green attitude–intention/behavior relationship of consumers has been strengthened through green attitudes toward performing specific environmentally friendly behavior as opposed to being confronted with more general environmental issues (Vazifehdoust et al., 2013). One such study, by Sinnappan and Rahman (2011), explored the antecedent factors influencing green purchase behavior in Malaysia. Analyzing a sample of 204 respondents, the authors concluded that attitude is the most important predictor of green purchase behavior among all antecedent variables. Vazifehdoust et al. (2013) also investigated the factors influencing consumers' green purchase behavior in Iran, statistically analyzing a convenience sample of 374 respondents and confirming that a positive attitude towards green products has a positive effect on the consumers' intention of purchasing green products. Han et al. (2010) explored the relationship between attitude, subjective norms, perceived behavioral controls, and consumers' visit intention towards green hotel selection among US lodging consumers. Their study adopted a random sample of 428 respondents and showed that the effect of attitude on consumers' visit intention was greater than other variables and was, in fact, the strongest predictor of consumers' intention. Zakersalehi and Zakersalehi (2012), exploring consumer attitudes and intention regarding green packaged foods in Malaysia, analyzed a mall-intercept personal survey of 134 respondents. They concluded that attitude had a significant impact on consumer intention towards green packaged foods and that attitude was, generally, the most important predictor of consumer intention. Similarly, Paul et al. (2016) adopted the TPB model to predict consumer green product consumption. After statistically analyzing a quota sampling of 521 respondents in India, the authors showed that, out of three theories of planned behavioral variables, attitude is the strongest predictor of intention towards the purchase of green products. In view of the findings of these studies, this paper established the following hypothesis:

H1: There is a positive significant relationship between green purchase attitude and consumers' green purchase intention towards green hotel selection.

Subjective norm

The second determinant variable of behavioral intention in the TPB model is the subjective norm. According to Ajzen (1991), a subjective norm defined as the conscious social pressure to enact or not to enact a particular behavior. Paul et al. (2016) highlighted the importance of the influence of others who are close to the individual, such as close friends, relatives, co-workers/colleagues, or business partners. In other words, the subjective norm is an influence on decision-making from the perceived opinions of significant others (Chen & Tung, 2014). The subjective norm is represented as a function of an individual's normative beliefs about what others think he/she should or should not do, and his/her motivation to comply (Ajzen & Fishbein, 1980). The subjective norm is, basically, the feeling or moral obligation of consumers. As such, it can be a powerful motivator of environmentally friendly behavior (Chen & Chai, 2010). The social dynamic is one where individuals associate with other individuals by presenting similar qualities, by sharing the same values, thoughts, and beliefs as others who they are communicating with (Sinnappan & Rahman, 2011). Individuals are, therefore, naturally concerned about whether significant referents would approve/appreciate or disapprove/depreciate particular behaviors (Han et al., 2010), leading to the point that the more positive the subjective norm that individuals have, the stronger their intention to perform the particular behavior (Chen & Tung, 2014).

The importance of the role of the subjective norm as a determinant variable of behavioral intention has been well-documented in various contexts in studies of green marketing (Chen, 2013; Chen & Chai, 2010; Chen & Tung, 2014; Coleman et al., 2011; Han et al., 2010; Han & Yoon, 2015; Paul et al., 2016; Rezai et al., 2012; Sinnappan & Rahman, 2011). However, it should be noted that previous results have also disclosed a complicated, fuzzy relationship between subjective norm, attitude and intention in green marketing. This being said, many researchers have confirmed that there is a positive significant relationship between the subjective norm and green purchase intention (Sinnappan & Rahman, 2011). Han and Yoon (2015), for example, explored the antecedent variables influencing consumers' intention to visit green hotels in the US. Analyzing results from a random sampling of 384 respondents, they argued that a subjective norm positively influenced desire for green purchase behavior and that desire for green purchase behavior positively influenced intention to visit green hotels. Chen and Tung (2014) used the theory of planned behavior model to predict consumer intention to visit green hotels in Taiwan, China. This study adopted an online survey and analyzed a sample of 559 respondents, showing that the subjective norm indeed exerted a positive influence on consumer intention to visit green hotels. Analyzing a random sample of 6,010 high-school respondents, a study by Lee (2008) explored the antecedent variables affecting green purchase behavior in adolescent consumers in Hong Kong, China. Lee's study also confirmed that the subjective norm was the most important predictor of adolescents' green purchase behavior among seven predictors. On the basis of the above findings, the following hypothesis was proposed:

H2: There is a positive significant relationship between the subjective norm and consumers' green purchase intention towards green hotel selection.

Nevertheless, because of differences of opinion among researchers regarding the relationship between subjective norm, attitude, and intention (Tarkiainen & Sundqvist, 2005), it was deemed necessary to include attitude as part of this study. Some researchers, for example, found evidence of a significant causal path from the subjective norm to attitudes in the general decision-making of consumers (Chang, 1998; Shepherd & O'Keefe, 1984; Tarkiainen & Sundqvist, 2005; Vallerand, Deshaies, Cuerrier, Pelletier, & Mongeau, 1992) and in their green purchase decision-making (Chen & Chai, 2010; Han et al., 2010). A study by Tarkiainen and Sundqvist (2005) investigated the relationship between the subjective norm, attitudes, and intention of Finnish consumers in buying organic foods. Analyzing a quota sampling of 200 consumers, the authors concluded that the subjective norm has no significant relationship with behavioral intention, but found it significant that the results also showed that the path from the subjective norm to attitudes was significant in the model. This finding diverges from the original formulations of the TRA and the TPB. Analyzing a sample of 184 respondents, Chen and Chai (2010) investigated the antecedent variables influencing green purchase attitudes towards green products in Malaysia and showed that there is a significant relationship between the subjective norm of consumers in environmental issues and their attitudes towards green products. Han et al. (2010) applied the TPB to consumers' green hotel choices in the US using an online survey. Analysis of a sample of 428 respondents revealed a positive indirect effect of the subjective norm on consumers' visit green purchase intention with the subjective norm positively influencing visit green purchase intention through attitude. In other words, attitude had a mediating role in the relationship between the subjective norm and visit intention. Following these findings, the following hypotheses were established to account for attitude:

H3: There is a positive relationship between the subjective norm and green purchase attitude towards green hotel selection.

H4: Green purchase attitude mediates the relationship between subjective norm and green purchase intention towards green hotel selection.

Perceived behavioral control

The third determinant variable of behavioral intention in the TPB model is perceived behavioral control. According to Ajzen (1991), perceived behavioral control is about the perception of how difficult it is to enact a certain behavior. Perceived behavioral control also encompasses previous experiences and expected hindrances (Paul et al., 2016). Zhou et al. (2013) and Paul et al. (2016) argued that behavior depends on both motive and ability (behavioral control). In some situations, perceived behavioral control, therefore, entails the perception of how well individuals are able to control non-motive factors that may facilitate or constrain particular actions (Han et al., 2010). In other words, individuals should consider the extent to which an actor is responsible for a performance (Tarkiainen & Sundqvist, 2005). In

other words, resources, opportunities, time, money, skills (Ajzen, 1989), facilitating factors, action controls (Paul et al., 2016), and chance (Chen & Tung, 2014) may not be under the control of an individual. Han et al. (2010) stated that perceived behavioral control is determined to be a function of control beliefs. This refers to the individual's perception of the presence/absence of resources/opportunities required to perform a given behavior, and his/her assessment of the level of importance of such resources/opportunities for the attainment of certain outcomes. Therefore, the more an individual is able to have control over the resources/opportunities to perform a specific behavior, the more likely it is that the behavior will be engaged in (Chen & Tung, 2014). In contrast, when an individual feels a lack of ability, resources, opportunities, or chances to perform the behavior, he/she is not likely to have a strong intention to do so, irrespective of the objective conditions (Ajzen, 1989; Zhou et al., 2013). Tarkiainen and Sundqvist (2005) and Zhou et al. (2013) argued that perceived behavioral control can be divided into two aspects: inner self-efficacy, which refers to internal control factors, and perceived (external) barriers and general factors (Paul et al., 2016).

A number of studies have demonstrated that green purchase intention is positively influenced by perceived behavioral control in various research contexts (Albayrak, Aksoy, & Caber, 2013; Chan & Tsang, 2011; Chen & Tung, 2014; Han et al., 2010; Moser, 2015; Paul et al., 2016; Zhou et al., 2013). A study by Chan and Tsang (2011) analyzed a convenience sampling of 570 respondents to explore the variables influencing healthy eating behavior among adolescents in Hong Kong, China. The authors concluded that perceived behavioral control and attitudes towards healthy eating were the most important factors in predicting an adolescent's intention to eat healthily. In another study, Chen and Tung (2014) investigated the relationship between environmental concern, the TPB and green purchase intention to visit green hotels. Using an online survey method and statistically analyzing a sample of 559 respondents, the researchers showed that attitude, the subjective norm and perceived behavioral control all exerted a positive influence on the intention to visit green hotels. Moreover, environmental concern was shown to have an indirect relationship with intention through attitude, the subjective norm and perceived behavioral control. In their research Zhou et al. (2013) explored how the antecedents of the TPB influence Chinese consumers' intention to buy organic foods. Through their analysis of a random sampling of 479 respondents, it was found that attitude and perceived behavioral control have a stronger impact on the intention to buy organic foods among consumers with strong self-transcendence values compared with consumers who possessed weak self-transcendence values. In view of the findings above, the following hypothesis was proposed:

H5: There is a positive relationship between perceived behavioral control and green purchase intention towards green hotel selection.

Research methodology

The current study adopts a philosophically positivist approach solely as its main principle, coupled with a deductive approach in order to undertake sound empirical research to test all of these hypotheses. Yeo, Goh, and Rezaei (2017) stated that the deductive approach aims to search for causal relationships, regularities, and patterns in

order to create generalization about them. The results will confirm or reject the relationships of behaviors in the study, thereby expanding knowledge of the theories used or research models adopted. According to Saunders, Lewis, and Thornhill (2011), the positivist approach ensures that there is as little bias as possible in the research process, since the researchers are objectively observing the single external reality in a value-free way, through mathematical and statistical methods which ultimately provide generalizable results (Yin, 1994). The type of research represented by the current study is an explanatory one, because it is concerned with explaining the nature of the causal relationships between independent and dependent variables (Saunders et al., 2011). Explanatory research is needed to be able to classify which variables are the cause and which variables are the effect and to be able to unpack the nature of the relationship between the causal variables and the effect to be predicted (Saunders et al., 2011). The survey method was adopted for data collection as it has many advantages, such as allowing for the collection of a large amount of data from a sizable population in an acceptable way (Saunders et al., 2011). Also, due to time and cost constraints, this research was proposed as a cross-sectional study.

The non-probability sampling method was adopted for this study. Saunders et al. (2011) argued that, for social science research, it is difficult to obtain an accurate sampling frame from companies or organizations and to locate appropriate respondents to answer research questions. In such circumstances, non-probability sampling is often used as an alternative technique to select samples based on subjective researcher judgement (Sekaran, 2006). As well as adopting this type of sampling, a web-based /online sampling method was utilized to collect samples due to the well-known advantages of this data collection method, such as instant access to a wider audience; the fact that data can be collected irrespective of the geographic location of respondents; the high speed of this data collection method; low cost; better display of the questionnaire; better access to unique populations; convenience (Evans & Mathur, 2005; Ilieva, Baron, & Healey, 2002; Wright, 2005) as well as many other reasons not listed here. Another important reason for basing the data collection online is that China has a population of over 1.3 billion (according to the China Internet Network Information Center, 2017), with over 772 million individuals being regular internet users at the end of 2017. In other words, over 55.8% of the population are internet users. Although an obvious disadvantage is that non-users may not be included in this survey, this study determined that the internet users were sufficiently representative to undertake the data collection. In fact, many green purchase studies have adopted a web-based sampling technique to collect data and have been regarded as achieving their expectations (Chen & Tung, 2014; Han et al., 2010; Han & Yoon, 2015).

This study posted the research questionnaire in Chinese on the electronic collection website, <https://www.wenjuan.com>, from 12 April to 31 May 2018. This free online survey questionnaire collection website is the most popular among consumers, businesses, and organizations in China, where it frequently serves as a first resort for the collection of primary survey data related to internet users. For a variety of research programs, gifts or money are usually offered as a necessary incentive in order to increase the response rate. Potential participants browse the website for prizes or they may be invited to complete questionnaires on the website via emails (Chen & Tung, 2014).

A well-established, self-administered and closed-ended questionnaire was employed for this research, because the formal construction of this type of questionnaire incorporates a set of verified scales (De Vaus, 2013). For this research, the reasonable number requirement of sample size was based on Tull and Hawkins (1980) and Sekaran (2006), who argued that a sample size larger than 30 and less than 500 is adequate for most research. Stutely (2003) also suggested that a minimum sample size of 30 for statistical analysis would provide a usefulness for the smallest number in each category within the overall research sample. Furthermore, many researchers recommend using structural equation modeling sample sizes of at least 200, and 10 to 20 cases per parameter (Kline & Santor, 1999; Marsh, Hau, Balla, & Grayson, 1998; Tabachnick & Fidell, 2007). For this study, a pilot test with 30 samples was used to ensure that the questionnaire would be usable and to reduce potential issues impacting on the results. This pilot sample number was above the suggestion of many researchers who recommend using a sample about 10% size for pilot surveys (Connelly, 2008; Hill, 1998; Treece & Treece, 1977). The questionnaire was designed in three sections. The first section included the variables: green purchase attitude, subjective norm, and perceived behavioral control. The second section of questionnaire included the variable, green purchase intention. Both of the first two sections of the questionnaire were adapted from previous studies (see Appendix: Measurement Scale). The third section of questionnaire included the demographic characteristics: age, gender, education level, and income level. A seven-point Likert scale was adapted for this study. According to Dawes (2008), a five or seven-point Likert scale will be more likely produce slightly higher mean scores within the highest possible attainable score, compared with a ten-point Likert scale, as well as being able to make comparing data a much easier process.

Data analysis and results

The software package: Statistic Package for Social Science (SPSS) 22 was utilized for the descriptive statistics and exploratory factor analysis (EFA) of this study. According to Green and Salkind (2010), this package provides a vast array for programs for univariate, bivariate and multivariate statistics analysis and it is considered the most widely-available and widely-used comprehensive statistical calculation package available for marketing research (Malhotra & Birks, 2007). EFA was used to discover the underlying structure of relative variables, and to identify the underlying relationships between latent variables and measured factors (Norris & Lecavalier, 2010). During the EFA process, the data were simply explored and provided information about the number of factors required to represent the data. The next step performed was a confirmatory factor analysis (CFA) and structural equations modeling test with AMOS. CFA can be used to support research and theories by extending standard multivariate analysis based on a visual instrument of structural equation modeling software (SEM). Next, SEM should be performed, it works not only with a single simple or multiple linear regression, but also with a system of regression equations (Nachtigall, Kroehne, Funke, & Steyer, 2003).

Descriptive statistics

Table 1 shows the descriptive statistics for all of the background demographics used in this study.

A total of 261 questionnaires were completed and returned. Of those 261 respondents, 50.6% of the respondents were male and 40.6% of respondents had completed a 3-year degree. In total, 50.6% of the respondents belonged to the 18–30 age group. The monthly income of most of respondents (31.8% of the respondents) was 3001–4500 CNY (Chinese Yuan).

Exploratory factor analysis

From the EFA process, the KMO and Bartlett's Test of Sphericity results showed that the Kaiser-Meyer-Olkin measure of Sampling Adequacy is $0.863 > 0.7$. The approximate Chi-Square is 1377.387, $df = 66$, $Sig. = 0.000 < 0.05$. Thus, the results showed that the data were appropriate for performing EFA.

Validity and reliability

After dropping off the low factor loading (i.e. PBC3) and cross loading (i.e. GPA1), the validity and reliability were established. The average loading, square variance extracted, AVE, and Composite Reliability (CR) are shown in Table 2. According to Hair, Anderson, Babin, and Black (2010), the average loading of all factors should be greater than 0.7, and the average variance extracted (AVE) should be greater than 0.5 (Fornell & Larcker, 1981). For reliability, Composite Reliability (CR) should be greater than 0.7, while for convergent validity, CR should be greater than the AVE, and the AVE should be greater than 0.5. Thus, the convergent validity was established for this study (see Table 2). Moreover, to assess discriminant validity, the maximum shared squared variance (MSV) and the average shared squared variance (ASV) were considered. Based on (Hair et al., 2010), both the MSV and the ASV should be less than the AVE. Therefore, the discriminant validity was also established for this study.

Table 1. Demographics background.

		Frequency	Percent	Valid percent
Gender	Male	132	50.6	50.6
	Female	129	49.4	49.4
Age	18–30	132	50.6	50.6
	31–45	88	33.7	33.7
	46–60	37	14.2	14.2
	Above 61	4	1.5	1.5
	Below 1700	36	13.8	13.8
Income level	1701–3000	64	24.5	24.5
	3001–4500	83	31.8	31.8
	4501–6000	38	14.6	14.6
	Above 6001	40	15.3	15.3
Education level	Middle school	7	2.7	2.7
	High school	41	15.7	15.7
	Diploma	106	40.6	40.6
	Bachelor	79	30.3	30.3
	Master and above	28	10.7	10.7
	Total	261	100.0	100.0

Table 2. The average loadings, square variance extracted, Cronbach's alpha, AVE, CR, MSV, and ASV.

Items	Average loading	Square variance extracted	Cronbach's alpha	AVE	CR	MSV	ASV
GPA	0.783	0.613	0.831	0.623	0.919	0.333	0.236
SN	0.828	0.686	0.811	0.688	0.868	0.246	0.211
PBC	0.855	0.731	0.728	0.731	0.845	0.333	0.278
GPI	0.822	0.675	0.807	0.682	0.864	0.255	0.192

For assessing the reliability in this study, many researchers recommend using an index form for Cronbach's Alpha values (Hair et al., 2010; Kerlinger & Lee, 1999; Nunnally & Bernstein, 1994; Peterson, 1994). Based on Hinkin, Tracey, and Enz (1997), the indication of a strong item covariance or homogeneity, and for ensuring that the sampling was adequately captured, content with a reliability coefficient of 0.7 and above was acceptable. Hair et al. (2010) suggested that a reliability value between 0.6 and 0.7 would be the lower limit of acceptability for research. The reliability statistics for this study showed that Cronbach's Alpha values were all greater than 0.7 (see Table 2). Thus, the reliability of this study was established.

Confirmatory factor analysis (CFA)

According to the CFA model, all of the factor loadings for this study were more than 0.5. Based on Hair et al. (2010), the rule of thumb for assessing the practical significance of standardized factor loadings must be at least 0.5 or higher; ideally 0.7 or higher. Subsequently, the model fit for this study was checked. In the Model Fit Summary, according to Marsh and Hocevar (1985) and Bentler (1990) a Chi-square divided by the df value (CMIN/DF) < 5.0 is good. When CMIN/DF < 3.0 is good, CMIN/DF < 5.0 is sometimes permissible (Hair et al., 2010). Results showed the CMIN/DF = 3.227, meaning that the CMIN/DF index was good for the model. According to Hair et al. (2010), an Adjusted Goodness of Fit Index (AGFI) > 0.8 is good. In the model for this study the AGFI = 0.846. Meyers, Gamst, and Guarino (2006) recommended that an Incremental Fit Index (IFI) > 0.9 is good. The results of this study show the IFI = 0.906. Bentler (1990) and Hatcher and Stepanski (1994) recommended that a Comparative Fit Index (CFI) > 0.9 is good. The results show the CFI = 0.905. Meyers et al. (2006) recommended that the Parsimony Normed Fit Index (PNFI) should be > 0.5, and Parsimonious Comparative Fit Index (PCFI) should be > 0.5. The results of this study show that the PNFI = 0.702 and the PCFI = 0.731. According to Byrne (2001), a Root Mean Square Error of Approximation (RMSEA) < 0.08 is good, with 0.08 to 0.1 being a moderate-fitted model. The results of this study show that the RMSEA = 0.093. Based on Ho (2006) there were at least three indices to be met to make the model fit, as mentioned above. Therefore, the model fit for this study was considered achieved.

Structural equation modelling (SEM)

A further necessary step was to perform SEM using the model as shown below (see Figure 2) and to test the hypotheses. Figure 2 shows that all of the factor loadings were more than 0.5, with most of the factor loadings being greater than 0.7: GPA2 = 0.71, GPA3 = 0.75, GPA4 = 0.76, GPA5 = 0.72, SN1 = 0.58, SN2 = 0.76, SN3 = 0.75, PBC1 = 0.65,

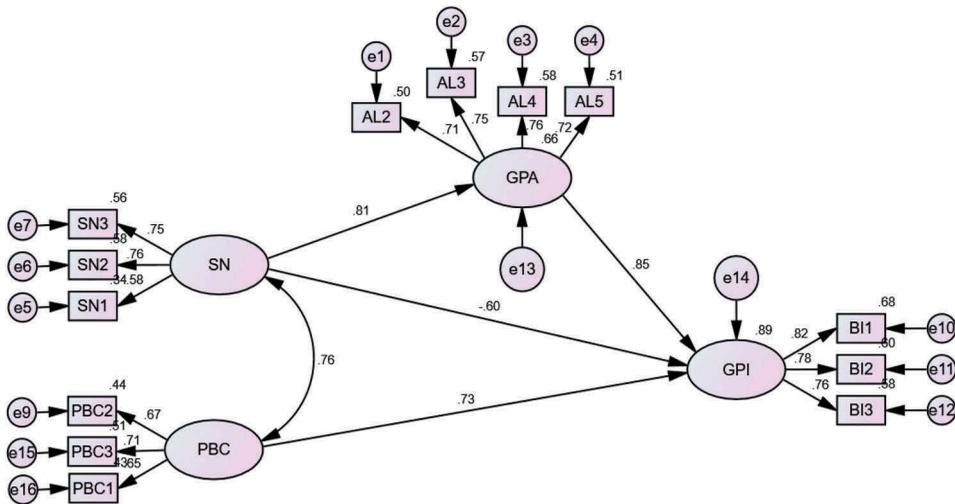


Figure 2. Structural equation modeling.

PBC2 = 0.71, PBC3 = 0.67, GPI1 = 0.82, GPI2 = 0.78, GPI3 = 0.76. The model fit indices of the model are as follow: CMIN/DF = 3.113, AGFI = 0.857, IFI = 0.913, CFI = 0.911, PNFI = 0.707, PCFI = 0.723, RMSEA = 0.087. The data show a good fit of the structural model. The results of the standardized regression weights to test the hypotheses are shown in Table 3.

Decision and conclusion

This study examined the relationship between green purchase attitude, the subjective norm, perceived behavioral control, and intention towards green hotel selection. It used specific consumer TPB questions related to green hotel orientation instead of the general TPB questions used in previous studies. Many researchers argued that attitude has the most important positive influence on green purchase intention (Han et al., 2010; Paul et al., 2016; Sinnappan & Rahman, 2011; Zakersalehi & Zakersalehi, 2012). The results of this study further demonstrate the validity of the theoretical foundations commonly used in previous studies and confirm that there is, indeed, a positive and significant relationship between green purchase attitude and intention. This means that a more positive attitude results in a greater likelihood of making green hotel selection.

Table 3. Structural relationships and hypotheses testing.

Hypothesis	Parameter	Estimate	Lower	Upper	P	Decision
H1	GPA → GPI	0.854	0.731	0.997	0.001	Supported
H2	SN → GPI	-0.595	-0.808	-0.388	0.001	Not supported
H3	SN → GPA	0.810	0.713	0.891	0.001	Supported
H4	SN → GPA → GPI					Partial supported
H5	PBC → GPI	0.725	0.603	0.850	0.001	Supported

Note. Green purchase attitude (GPA). Subjective norm (SN). Perceived behavioral control (PBC). Green purchase intention (GPI).

The results also confirm that attitude has the most predictive power of green purchase intention ($p = 0.001$, estimate = 0.854). Therefore, H1 is accepted.

Based on previous studies, the subjective norm has been proven to have a significant positive influence on green purchase intention in green marketing (Chen & Tung, 2014; Han & Yoon, 2015) and in some circumstances, the subjective norm has been the most important predictor of consumers' green purchase behavior (Lee, 2008). However, the results of this study show that there is a negative significant relationship between the subjective norm and green purchase intention. Thus, H2 is rejected. The implication is that a higher level of subjective norm leads to a low level of consumer green purchase intention. It could be the case that an individuals' close friends, relatives, co-workers /colleagues, or business partners hold negative opinions or had negative experiences with the green hotel industry in China. This result also stands in contrast to some studies showing that the subjective norm has no influence on green purchase intention (Paul et al., 2016; Sinnappan & Rahman, 2011; Tarkiainen & Sundqvist, 2005). However, the results of this study also suggest that the subjective norm positively and significantly influences green purchase attitude. This corresponds to the recommendation of some researchers that there is a significant causal path from the subjective norm to green purchase attitude (Chen & Chai, 2010; Han et al., 2010). It can, therefore, be claimed here that the subjective norm positively affects green purchase intention through attitude. This result suggests that green purchase attitude plays a partially-mediating role in the relationship between green purchase attitude and intention. Therefore, H3 is accepted, while H4 is partially accepted.

Zhou et al. (2013) argued that perceived behavioral control has the strongest impact on green purchase intention as well as on green purchase attitude, in their theory of planned behavior model. In addition, according to Chen and Tung (2014) and Paul et al. (2016), consumers' green purchase intention is positively influenced by their perceived behavioral control. In other words, the more people are able to exercise control over their own resources/opportunities to perform a specific green purchase behavior, the more likely it is that such behavior will be engaged in. This study confirms that there is a positive significant relationship between perceived behavioral control and green purchase intention ($p = 0.001$, estimate = 0.725) towards green hotel selection. Therefore, H5 is accepted.

Implications for practice

Being markedly different from results of previous studies, the unique outcomes of this study can be used by green hotels' marketers to target consumers and to design marketing campaigns. For hospitality marketers who are interested in exploiting the intention of consumers to patronize green hotels, this study highlights the importance of attitude and perceived behavioral control as factors to be identified and manipulated for the benefit of their green businesses. Consumer attitude and perceived behavioral control both play an important role, which influences intention. As mentioned in previous studies, a higher level of attitude and perceived behavioral control will help to change consumers' green purchase intention (Chen & Tung, 2014; Han et al., 2010; Paul et al., 2016; Zhou et al., 2013). Regarding Chinese green marketing, if consumers have a positive attitude, they will have a higher level of confidence and be more willing

to overcome obstacles to patronizing those green hotels. More specifically, this study has shown that the subjective norm negatively and significantly influences green purchase intention toward green hotel selection in this context, but positively and significantly affects intention through green purchase attitude. This most likely means that an individual's received positive or novel conceptions of green hotels from close friends, relatives, and colleagues leads to a positive green purchase attitude, while their negative experiences or lack of interest in green issues result in a low level of green purchase intention. Therefore, hospitality marketers should consider more carefully how to advertise and promote their green campaign to the public if consumers are to book their hotels, considering of the important role that the subjective norm plays in influencing green purchase intention.

Implications for academicians

Although many studies about green hotels and green purchase behavior typically use the TRA and TPB models, the results of this study illustrate that there are some drawbacks to their continued use. In the original frameworks of the TRA and TPB models, researchers postulated that attitude, the subjective norm, and perceived behavioral control all have an influence on consumers' purchase intention respectively, and that, taken as predictors, they are independent of each other (Ajzen, 1991; Ajzen & Fishbein, 1975). However, the results of this study show that there is a significant causal relationship between the subjective norm and green purchase attitude, as the subjective norm positively and significantly influences green purchase attitude. This marks a divergence from the claims of most previous studies. Future research in this area, therefore, needs to take account of the finding of this study that green purchase attitude is influenced by the subjective norm.

Limitations

First, the main limitation of this study is that the data were collected through an online survey from a broad range of online Chinese netizens. Although the use of online surveys has become more prevalent, adopting this survey method still has various well-known disadvantages. Second, this study examined consumer green purchase intention towards green hotel selection based on the TPB model instead of being based on the actual purchase behavior of consumers. According to Chen and Tung (2014), while green purchase intention models may be robust in numerous behavioral domains, a consumer's actual behavior is not always equivalent to his/her stated behavioral intention. Therefore, based on Han et al. (2010), who highlight the importance of reducing as much as possible any extraneous variance and increasing internal validity, future studies should test the proposed model using a more homogeneous sample in actual consumption situations as a replication of this study. Third, this study was conducted with a very limited number of responses: 261. A larger sample would have provided a better representation of the population (Yeo et al., 2017). Only four respondents were over 61 and no respondents were below 18 years of age. Furthermore, almost all of the respondents were at least middle school graduates. Previous research reveals that demographic characteristic is

one of the most widely-used methods to investigate consumer green purchase behavior, due to it being readily available and easy to apply to segmentation problems (Albayrak, Caber, Moutinho, & Herstein, 2011). Therefore, further studies should include demographic characteristics to enable prediction of their green purchase attitude/intention.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

Lei Wang is affiliated with School of Hospitality, Tourism and Events at Taylor's University, Malaysia (E-mail: 1136603668@qq.com).

Philip Pong Weng Wong is a Senior Lecturer in School of Hospitality, Tourism and Culinary Arts at Taylor's University, Malaysia (E-mail: Pongweng.wong@taylors.edu.my).

Elangkovan Narayanan Alagas is a Senior Lecturer in Taylor's Business School at Taylor's University, Malaysia (E-mail: elangkovan.narayan@taylors.edu.my).

Wei Ming Chee is a Senior Lecturer in City Business School at City University, Malaysia (E-mail: cheewei@city.edu.my).

ORCID

Lei Wang  <http://orcid.org/0000-0002-3288-0546>

References

- Ajzen, I. (1989). Attitude structure and behavior. In A. R. Pratkanis, S. J. Breckler, & A. G. Greenwald (Eds.), *Attitude structure and function* (pp. 241–274). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.
- Ajzen, I., & Fishbein, M. (1975). Belief, attitude, intention and behavior: An introduction to theory and research. *Philosophy and Rhetoric*, 10(2), 130–132.
- Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, 84(5), 888–918.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviour*. Michigan, MI: Prentice-Hall.
- Akehurst, G., Afonso, C., & Gonçalves, H. M. (2012). Re-examining green purchase behaviour and the green consumer profile: New evidences. *Management Decision*, 50(5), 972–988.
- Albayrak, T., Aksoy, Ş., & Caber, M. (2013). The effect of environmental concern and scepticism on green purchase behaviour. *Marketing Intelligence & Planning*, 31(1), 27–39.
- Albayrak, T., Caber, M., Moutinho, L., & Herstein, R. (2011). The influence of skepticism on green purchase behavior. *International Journal of Business and Social Science*, 2(13), 189–197.
- Aman, A. L., Harun, A., & Hussein, Z. (2012). The influence of environmental knowledge and concern on green purchase intention the role of attitude as a mediating variable. *British Journal of Arts and Social Sciences*, 7(2), 145–167.

- Baker, M. A., Davis, E. A., & Weaver, P. A. (2013). Eco-friendly attitudes, barriers to participation, and differences in behavior at green hotels. *Cornell Hospitality Quarterly*, 55(1), 89–99.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107(2), 238–246.
- Byrne, B. M. (2001). Structural equation modeling with AMOS, EQS, and LISREL: Comparative approaches to testing for the factorial validity of a measuring instrument. *International Journal of Testing*, 1(1), 55–86.
- Chan, K., & Tsang, L. (2011). Promote healthy eating among adolescents: A Hong Kong study. *Journal of Consumer Marketing*, 28(5), 354–362.
- Chang, M. K. (1998). Predicting unethical behavior: A comparison of the theory of reasoned action and the theory of planned behavior. *Journal of Business Ethics*, 17(16), 1825–1834.
- Chen, L. (2013). A study of green purchase intention comparing with collectivistic (Chinese) and individualistic (American) consumers in Shanghai, China. *Information Management and Business Review*, 5(7), 342–346.
- Chen, M.-F., & Tung, P.-J. (2014). Developing an extended theory of planned behavior model to predict consumers' intention to visit green hotels. *International Journal of Hospitality Management*, 36, 221–230.
- Chen, T. B., & Chai, L. T. (2010). Attitude towards the environment and green products: Consumers' perspective. *Management Science and Engineering*, 4(2), 27–39.
- China Internet Network Information Center. (2017). *Information for network administration*. Retrieved from <http://cnnic.com.cn/index.htm>
- Chiou, J.-S. (1999). The effects of attitude, subjective norm, and perceived behavioral control on consumers' purchase intention: The moderating effects of product knowledge and attention to social comparison information. *Astronomicheskij Tsirkulyar*, 952(3), 351–360.
- Chong, H., & Verma, R. (2013). Hotel sustainability: Financial analysis shines a cautious green light. *Center for Hospitality Research Publications*, 13(10), 4–15.
- Coleman, L. J., Bahnan, N., Kelkar, M., & Curry, N. (2011). Walking the walk: How the theory of reasoned action explains adult and student intentions to go green. *Journal of Applied Business Research*, 27(3), 107–116.
- Connelly, L. M. (2008). Pilot studies. *Medsurg Nursing*, 17(6), 411–413.
- Dawes, J. (2008). Do data characteristics change according to the number of scale points used? An experiment using 5-point, 7-point and 10-point scales. *International Journal of Market Research*, 50(1), 61–104.
- De Vaus, D. (2013). *Surveys in social research* (5th ed.). London: Routledge.
- Evans, J. R., & Mathur, A. (2005). The value of online surveys. *Internet Research*, 15(2), 195–219.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18, 39–50.
- Green Hotel Association. (2017). *What are green hotels?* Retrieved from <http://www.greenhotels.com>
- Green, S. B., & Salkind, N. J. (2010). *Using SPSS for Windows and Macintosh: Analyzing and understanding data*. Upper Saddle River, NJ: Prentice Hall Press.
- Hair, J. F., Anderson, R. E., Babin, B. J., & Black, W. C. (2010). *Multivariate data analysis: A global perspective*. Upper Saddle River, NJ: Pearson.
- Han, H., Hsu, L.-T., & Sheu, C. (2010). Application of the theory of planned behavior to green hotel choice: Testing the effect of environmental friendly activities. *Tourism Management*, 31(3), 325–334.
- Han, H., Hsu, L.-T. J., Lee, J.-S., & Sheu, C. (2011). Are lodging customers ready to go green? An examination of attitudes, demographics, and eco-friendly intentions. *International Journal of Hospitality Management*, 30(2), 345–355.
- Han, H., & Kim, Y. (2010). An investigation of green hotel customers' decision formation: Developing an extended model of the theory of planned behavior. *International Journal of Hospitality Management*, 29(4), 659–668.
- Han, H., & Yoon, H. J. (2015). Hotel customers' environmentally responsible behavioral intention: Impact of key constructs on decision in green consumerism. *International Journal of Hospitality Management*, 45, 22–33.

- Handique, K. (2014). Role of collectivism, environmental concern, scepticism and perceived consumer effectiveness on green purchasing behaviour of consumers of Guwahati, India. *The International Journal of Business & Management*, 2(10), 58–66.
- Hatcher, L., & Stepanski, E. J. (1994). *A step-by-step approach to using the SAS system for univariate and multivariate statistics*. North Carolina, NC: SAS Institute.
- Hill, R. (1998). What sample size is “enough” in internet survey research? *Interpersonal Computing and Technology: an Electronic Journal for the 21st Century*, 6(3–4). Retrieved from <http://www.reconstrue.co.nz/IPCT-J%20Vol%206%20Robin%20hill%20SampleSize.pdf>
- Hinkin, T. R., Tracey, J. B., & Enz, C. A. (1997). Scale construction: Developing reliable and valid measurement instruments. *Journal of Hospitality & Tourism Research*, 21(1), 100–120.
- Ho, R. (2006). *Handbook of univariate and multivariate data analysis and interpretation with SPSS*. New York, NY: CRC Press.
- Huang, Y. (2016). *Customers' perceptions and expectations of green hotels in China: A case study*. Auckland, New Zealand: Auckland University of Technology. Retrieved from <http://aut.researchgateway.ac.nz/handle/10292/10071>
- Hur, W.-M., Kim, Y., & Park, K. (2013). Assessing the effects of perceived value and satisfaction on customer loyalty: A ‘green’ perspective. *Corporate Social Responsibility and Environmental Management*, 20(3), 146–156.
- Ilieva, J., Baron, S., & Healey, N. M. (2002). Online surveys in marketing research: Pros and cons. *International Journal of Market Research*, 44(3), 361–376.
- Kasliwal, N., & Agarwal, S. (2015). A study on Indian consumers’ attitude and choice of preferences for green attributes of the hotel industry. *Prabandhan: Indian Journal of Management*, 8(1), 21–33.
- Kerlinger, F. N., & Lee, H. B. (1999). *Foundations of behavioral research*. New York, NY: Holt, Rinehart, Winston, Inc.
- Kim, S.-Y., Yeo, J., Sohn, S. H., Rha, J.-Y., Choi, S., Choi, A.-Y., & Shin, S. (2012). Toward a composite measure of green consumption: An exploratory study using a Korean sample. *Journal of Family and Economic Issues*, 33(2), 199–214.
- Kim, Y. J., Palakurthi, R., & Hancer, M. (2012). The environmentally friendly programs in hotels and customers’ intention to stay: An online survey approach. *International Journal of Hospitality & Tourism Administration*, 13(3), 195–214.
- Kline, R. B., & Santor, D. A. (1999). Principles & practice of structural equation modelling. *Canadian Psychology*, 40(4), 381–383.
- Kuminoff, N. V., Zhang, C., & Rudi, J. (2010). Are travelers willing to pay a premium to stay at a “green” hotel? Evidence from an internal meta-analysis of hedonic price premia. *Agricultural & Resource Economics Review*, 39(3), 468–484.
- Lee, K. (2008). Opportunities for green marketing: Young consumers. *Marketing Intelligence & Planning*, 26(6), 573–586.
- Leonidou, L. C., Leonidou, C. N., & Kvasova, O. (2010). Antecedents and outcomes of consumer environmentally friendly attitudes and behaviour. *Journal of Marketing Management*, 26(13–14), 1319–1344.
- Levine, D. S., & Strube, M. J. (2012). Environmental attitudes, knowledge, intentions and behaviors among college students. *The Journal of Social Psychology*, 152(3), 308–326.
- Malhotra, N. K., & Birks, D. F. (2007). *Marketing research: An applied approach* (3rd ed.). Harlow, England: Pearson Education.
- Manaktola, K., & Jauhari, V. (2007). Exploring consumer attitude and behaviour towards green practices in the lodging industry in India. *International Journal of Contemporary Hospitality Management*, 19(5), 364–377.
- Marsh, H. W., Hau, K.-T., Balla, J. R., & Grayson, D. (1998). Is more ever too much? The number of indicators per factor in confirmatory factor analysis. *Multivariate Behavioral Research*, 33(2), 181–220.
- Marsh, H. W., & Hocevar, D. (1985). Application of confirmatory factor analysis to the study of self-concept: First-and higher order factor models and their invariance across groups. *Psychological Bulletin*, 97(3), 562–582.

- Mas'od, A., & Chin, T. A. (2014). Determining socio-demographic, psychographic and religiosity of green hotel consumer in Malaysia. *Procedia - Social and Behavioral Sciences*, 130, 479–489.
- Meyers, L. S., Gamst, G., & Guarino, A. J. (2006). *Applied multivariate research: Design and interpretation* (3rd ed.). Thousand Oaks, California: Sage.
- Moser, A. K. (2015). Thinking green, buying green? Drivers of pro-environmental purchasing behavior. *Journal of Consumer Marketing*, 32(3), 167–175.
- Myung, E., McClaren, A., & Li, L. (2012). Environmentally related research in scholarly hospitality journals: Current status and future opportunities. *International Journal of Hospitality Management*, 31(4), 1264–1275.
- Nachtigall, C., Kroehne, U., Funke, F., & Steyer, R. (2003). Pros and cons of structural equation modeling. *Methods Psychological Research Online*, 8(2), 1–22.
- Norris, M., & Lecavalier, L. (2010). Evaluating the use of exploratory factor analysis in developmental disability psychological research. *Journal of Autism and Developmental Disorders*, 40(1), 8–20.
- Nunnally, J., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York, NY: McGraw-Hill.
- Paul, J., Modi, A., & Patel, J. (2016). Predicting green product consumption using theory of planned behavior and reasoned action. *Journal of Retailing and Consumer Services*, 29, 123–134.
- Peterson, R. A. (1994). A meta-analysis of Cronbach's coefficient alpha. *Journal of Consumer Research*, 21(2), 381–391.
- Rahman, I., & Reynolds, D. (2016). Predicting green hotel behavioral intentions using a theory of environmental commitment and sacrifice for the environment. *International Journal of Hospitality Management*, 52, 107–116.
- Ramayah, T., Lee, J. W. C., & Mohamad, O. (2010). Green product purchase intention: Some insights from a developing country. *Resources, Conservation and Recycling*, 54(12), 1419–1427.
- Rezai, G., Teng, P. K., Mohamed, Z., & Shamsudin, M. N. (2012). Consumers' awareness and consumption intention towards green foods. *African Journal of Business Management*, 6(12), 4496–4503.
- Saunders, M., Lewis, P., & Thornhill, A. (2011). *Research methods for business students* (5th ed.). Harlow, England: Pearson Education.
- Sekaran, U. (2006). *Research methods for business: A skill building approach*. New York, NY: John Wiley & Sons.
- Shepherd, G. J., & O'Keefe, D. J. (1984). Separability of attitudinal and normative influences on behavioral intentions in the Fishbein-Ajzen model. *The Journal of Social Psychology*, 122(2), 287–288.
- Sinnappan, P., & Rahman, A. A. (2011). Antecedents of green purchasing behavior among Malaysian consumers. *International Business Management*, 5(3), 129–139.
- Stutely, R. (2003). *Numbers guide: The essentials of business numeracy*. Princeton, NJ: Bloomberg Press.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston, MA: Allyn & Bacon/Pearson Education.
- Tarkiainen, A., & Sundqvist, S. (2005). Subjective norms, attitudes and intentions of Finnish consumers in buying organic food. *British Food Journal*, 107(11), 808–822.
- Teng, P. K., Rezai, G., Mohamed, Z., & Shamsudin, M. N. (Eds.). (2011). *Consumers' intention to purchase green foods in Malaysia. Proceedings of the 2011 international conference on innovation, management and service*, Singapore: International Association of Computer Science and Information Technology.
- Treece, E. W., & Treece, J. W. Jr. (1977). Elements of research in nursing. *Nursing* 2016, 7(6), 12–13.
- Tull, D. S., & Hawkins, D. I. (1980). *Marketing research: Measurement and method: A text with cases*. New York, NY: Macmillan.
- Vallerand, R. J., Deshaies, P., Cuerrier, J. P., Pelletier, L. G., & Mongeau, C. (1992). Ajzen and Fishbein's theory of reasoned action as applied to moral behavior: A confirmatory analysis. *Journal of Personality and Social Psychology*, 62(1), 98–109.
- Vazifehdoust, H., Taleghani, M., Esmailpour, F., Nazari, K., & Khadang, M. (2013). Purchasing green to become greener: Factors influence consumers' green purchasing behavior. *Management Science Letters*, 2489–2500. doi:10.5267/j.msl.2013.08.013

- Wright, K. B. (2005). Researching internet-based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of Computer-Mediated Communication*, 10(3). doi:10.1111/j.1083-6101.2005.tb00259.x
- Yeo, V. C. S., Goh, S.-K., & Rezaei, S. (2017). Consumer experiences, attitude and behavioral intention toward online food delivery (OFD) services. *Journal of Retailing and Consumer Services*, 35, 150–162.
- Yin, R. K. (1994). *Case study research: Design and methods*. Thousand Oaks, CA: International Educational and Professional Publisher.
- Young, W., Hwang, K., McDonald, S., & Oates, C. J. (2010). Sustainable consumption: Green consumer behaviour when purchasing products. *Sustainable Development*, 18(1), 20–31.
- Zakersalehi, M., & Zakersalehi, A. (Eds.). (2012). *Consumers' attitude and purchasing intention toward green packaged foods: A Malaysian perspective. Proceedings of the 2012 international conference on economics marketing and management*, Singapore: International Association of Computer Science and Information Technology.
- Zhou, Y., Thøgersen, J., Ruan, Y., & Huang, G. (2013). The moderating role of human values in planned behavior: The case of Chinese consumers' intention to buy organic food. *Journal of Consumer Marketing*, 30(4), 335–344.
- Zuriyati, Z., Rahimah, M. T., Arifin, T., Farhana, M., Samsuri, A. S., & Munir, M. B. (2014). Intention to visit green hotel in Malaysia: The impact of personal traits and marketing strategy. *International Journal of Business and Social Science*, 5(7), 167–173.