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The influence of green trust on travel agency intentions to promote low-carbon tours for the purpose of sustainable development

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Abstract

Through corporate social responsibility, tourism companies can contribute to sustainable development by embracing concepts such as low-carbon tourism and environmental protection. The purpose of this research was to determine the intention of Taiwanese travel agencies to promote low-carbon tours by incorporating government-approved eco-friendly travel products. In total, 427 valid questionnaires were collected and examined by means of PLS-SEM. The findings showed that green trust not only had a significant and direct impact on intentions to sell low-carbon tours, but also influenced agency attitudes, subjective norms, and perceived behavioral control. The study also demonstrated that the TPB was appropriate for predicting intentions for green decision-making at an organizational level and that subjective norms (e.g., peers, customers) influenced by green trust displayed more predictive strength (53.4%). The findings provide a method for incorporating low-carbon tourism into the travel industry.

KEYWORDS
corporate social responsibility, green trust, low-carbon tourism, sustainable development, theory of planned behavior

1 | INTRODUCTION

Between 2009 and 2013, tourism's global carbon footprint grew four times more than previously estimated, increasing from 3.9 to 4.5 $GtCO_2e$. The tourism industry was thus responsible for approximately 8% of global carbon dioxide emissions (Lenzen et al., 2018). Gössling et al. (2005) notes that fossil fuel energy used in tourism and its component activities is a leading factor contributing to carbon emissions. To lessen the impact, low-carbon tourism has been identified as one way of dealing with the challenges surrounding carbon-intensive tourism (Cheng et al., 2013; Cho et al., 2016; Horng et al., 2013; Hsiao, 2016; Huang, 2009; Huang & Deng, 2011; Shi & Peng, 2011). The scholarly literature has explained how businesses have developed corporate social responsibility (CSR) strategies to improve social outcomes and encourage environmental protection (Hussain et al., 2018; Nave & Ferreira, 2019; Orazalin & Baydauletov, 2020), with more focus required on responding to climate change issues and setting carbon emission constraints (Kılıç & Kuzey, 2019; Medarevic, 2012; Shu et al., 2018). Travel agencies in particular are key distribution channels that offer a wide variety of tourism products and have the potential to contribute to sustainable tourism through the management of greenhouse gas (GHG) emissions (Filimonau et al., 2013). Sigala (2008) suggested that travel agencies should lead the campaign to reduce carbon emissions and become social enterprises that support sustainable development.

The reduction of carbon emissions is an important responsibility of the tourism sector (Becken & Patterson, 2006). Keen to shoulder its portion of global responsibility, in 1992 Taiwan's government

introduced the Green Mark certification, which signaled the launch of Green Mark services and products. Taiwanese scholars have also proposed a range of evaluation indicators for the industry (Cho et al., 2016; Horng et al., 2013; Hsiao, 2016); however, to date limited attention has been paid to the decision-making aspect of CSR actions (e.g., the promotion of genuine low-carbon tours), and few if any studies have taken a psychological approach by examining the attitudes and opinions of senior executives and managers in travel agencies (Hsiao, 2016; Huang & Deng, 2011). Low-carbon tourism is not only scarce in the marketplace, but there is also scant research on the topic. As such, this is a potentially lucrative marketing strategy for travel agencies in attracting and serving consumers (Cho et al., 2016).

This investigation addressed the research gap by employing the concept of CSR in green trust (Chen, 2010; Chen & Chang, 2012; Choi et al., 2015) together with Ajzen's (1991) theory of planned behavior (TPB), a theory that can be applied at an organizational level (Arslan & Şar, 2017) to effectively predict behavioral intentions and interpret such behaviors (Ajzen, 2002; Han et al., 2010). Its research purposes were threefold. First, the analysis responded to calls for research to gain new and deeper insights by extending prior findings on low-carbon tourism (Hsiao, 2016; Huang & Deng, 2011). Second, the research explored the impact of green trust on travel agency intentions to promote low-carbon tours, and to avoid "greenwashing" marketing strategies (Cho et al., 2016). This was accomplished by measuring levels of agency green trust in Green Mark products to see if they genuinely intended to promote low-carbon tours and avoid making false claims. Third, the relationship between green trust and the TPB (attitudes toward behavior, subjective norms, and perceived behavioral control) was examined, as this could help to stimulate travel agency retailing of low-carbon tours.

The results offer a deeper insight into travel agency intentions and influential factors leading agencies to sell low-carbon tours as a part of CSR. This study can serve as a reference point for tourism policymakers and administrators to better understand the needs of customers and tourism companies when developing low-carbon products. The research also contributes to the conceptual development of low-carbon tourism, and to related empirical studies.

2 | LITERATURE REVIEW

CSR is defined as a series of discretionary actions taken by a company to achieve sustainable financial, social, and environmental development, and to comply with the law through its responsibility beyond profit motives (Mao et al., 2020; Nave & Ferreira, 2019; Orazalin & Baydauletov, 2020; Yang & Stohl, 2020). Since 2000 there have been numerous studies describing how CSR impacts the views of global consumers and how to measure CSR performance and its financial outcomes; issues which have prompted significant discussion among and within nations (Scalet & Kelly, 2010). However, Yang and Stohl (2020) believe there is a need for more in-depth discussion on CSR actions, as it remains ambiguous from a firm's perspective and is still largely unexplored. In this vein, few studies have examined

low-carbon (green) labeled tourism products of which travel agencies are aware, and agency intentions to promote low-carbon tourism in developing countries, such as Taiwan. This study therefore fills this research gap by providing relevant and empirical research. The Theory of Planned Behavior (TPB) (Ajzen, 1991) is widely used to explain and predict intention and behaviors through volitional and nonvolitional factors across various domains. Furthermore, it is not only applicable to customers, but also appropriate at an organizational level (Arslan & Şar, 2017). Yadav et al. (2019) found a positive relationship between green trust and the TPB, and also suggested that while discussing the impact of green trust, literature on green intentions in other fields should be consulted, as empirical evidence in the area of tourism is limited. Thus, literature from other fields was reviewed, such as online tax services, online trading, and e-commerce, which also offer intangible services. Furthermore, given that travel agencies are service-oriented businesses that sell intangible products and focus on customer service in an attempt to enhance economic success, decisions made by such companies are usually based on the customers' point of view (Hennig-Thurau, 2004). Consequently, this section referred to organizational and consumer-based studies for the development of its hypotheses.

2.1 | The role of travel agencies in Taiwan, and low-carbon tourism

Travel agencies should regard the development of low-carbon tours as an opportunity to balance profit-making and environmental protection by using their distribution channel advantages (Huang et al., 2011), especially since the movement toward a low-carbon island is one of Taiwan's clear policy directions (Trappey et al., 2012). The total number of travel agencies in Taiwan has reached 3660, while the sales revenues of general travel agencies (GTAs) and tour operator travel agencies (TOTAs) account for 93.9% of the total travel agency market share (Tourism Bureau, MOTC Republic of China (R.O. C.), 2018). Aguiar et al. (2016) view travel agencies as an intermediary channel from tourism suppliers to consumers; hence, their role is to act mainly in their clients' interest vis-à-vis the suppliers (Holma, 2009). Both types of travel agencies (GTAs and TOTAs) can develop and sell package tours and perform in a similar way to tour operators in larger nations. The difference between GTAs and TOTAs is that GTAs can sell package tours to TOTAs, and the scale of their business is much larger. As other researchers have pointed out, travel agencies play a critical role in influencing consumer travel choices (Font & Cochrane, 2005).

A major component of sustainable tourism development is the lowering of energy intensity (McEvoy et al., 2000). Tourism suppliers (transportation, accommodation, attractions, shopping, and entertainment) are embracing low-carbon concepts and developing different types of related products, such as environmentally and eco-friendly vehicles and flights, green and eco hotels, low-carbon tourist attractions, green shops, and pro-environment travel activities (Cheng et al., 2013; Dodds & Joppe, 2001; Filimonau et al., 2013). Thus, to

promote green trustworthiness and a commitment to low-energy, environmental protection, and consistency, green standards and certification must be incorporated. Yet false claims and greenwashing about energy savings and carbon reduction still exist. In this situation, the low-carbon tours promoted by travel agencies could be misleading or used as a guide to lure customers (Cho et al., 2016).

2.2 | The green mark in Taiwan

The Taiwanese government launched the Green Mark certification based on ISO 14024 eco-friendly principles that reflect green/eco-labeling efforts introduced by NGOs in other jurisdictions around the world. Only products in the top 20–30% of their category can be awarded Green Mark certification (Environmental Protection Administration, Republic of China (R.O.C.), 2018). Different sets of criteria are used to evaluate Green Mark tourism products, which include vehicles, restaurants, tourist attractions, and hotels. For example, a Green Mark hotel needs to pass inspections on six major management criteria: environment, energy conservation, water conservation, green purchasing activities, reduction of disposal product use, and waste reduction and toxic/hazardous substances. The underlying principle being promoted is the use of recyclable, low-polluting, resource-saving products. The Green Mark provides a reliable guarantee for consumers' concerns about the environment and the feelings caused by green issues. From the customer perspective, although green products are costlier than nongreen ones, they are willing to pay more for low-carbon products (Berger, 2019; Biswas & Roy, 2016; Hsiao et al., 2017).

From a suppliers' perspective, Green Mark is an essential tool for green marketing, as it helps to differentiate green from nongreen products (Blackman et al., 2014). However, for suppliers, gaining the Green Mark certification raises expenses—both financial and nonfinancial—as a result of having to meet Green Mark certification performance criteria and render application fees and other transactional costs (Carasuk et al., 2016). Kularatne et al. (2019) found that the implementation of eco-friendly practices at green hotels increased costs. However, they can also reduce costs through long-term management. For example, there are 219 hotels with Green Leaf marks in Thailand that have demonstrated their obligation to the environment, improved cost-saving (e.g., towel reuse), and helped in achieving long-term competitive advantages (Singjai et al., 2018). Conversely, Chen et al. (2019) found that certain hotels without substantial certifications only implement surface-level green practices, which, in reality, are just cost-saving tactics.

The Green Mark system acts as a low-carbon economy tool to boost products and services that promise sustainable economic benefits, social improvements, and environmental protection (McEvoy et al., 2000). It is a way to present high-quality green products that can be trusted, and to attain the goal of sustainability (Chen, 2005). This not only helps to counter the carbon dioxide (CO_2) emissions generated by travel activities, and mitigate the subsequent damage to the environment, but also allows customers to live up to their low-carbon travel principles. Consequently, travel agencies should engage with this opportunity to integrate Green Mark tourism products and promote

low-carbon tours, as the Green Mark system enhances overall and individual business market competitiveness (Chen & Chang, 2012).

2.3 | Travel agency perceptions and green trust

Agencies provide services in the travel industry's economic supply chain and depend on market demand and consumer trends to reach corporate business goals. Since low-carbon tours are a new business opportunity, viewed largely as a form of CSR, and as customers are willing to pay more for business initiatives that enhance environmental protection (Hsiao, 2018; Yadav et al., 2019), the intentions of travel agency product managers play a decisive role, as such staff have a keen intuition for business success (Lin & Brown, 2010). Chan (2013) stated that decision-makers within some organizations perceive green marketing as an opportunity to achieve their objectives (Shearer, 1990). Others view green marketing as their company's social or moral obligation (McIntosh, 1991), sense the potential to increase profits (Bansal & Roth, 2000; Kuo & Dick, 2010), feel pressure from government agencies and competitors (Delmas & Toffel, 2008), or perceive the opportunity to save costs (Kuo & Dick, 2010) and build a positive image (Saha & Darnton, 2005). Furthermore, Hennig-Thurau (2004) found that travel agencies' decisions were usually made based on the point of view of the customer.

Despite these potential reasons for travel agencies to develop and sell low-carbon tour packages as a green marketing strategy, there is scant if any information for them to provide their customers on how to reduce carbon emissions (Chen & Peng, 2012; Cho et al., 2016). As such, there may be a lack of sufficient perceived behavioral control for travel agents. Nevertheless, the travel agency may still believe that low-carbon marketing strategies can play a critical role in the success of tour development and marketing. To prevent asymmetric information, Font (2001) suggested using eco-labeling. An official certification system based on labels helps to regulate misleading marketing claims and can enhance perceived behavioral control by building green trust relationships among clients, companies, organizations, and government agencies (Chen & Chang, 2012).

Green trust is a belief that the other party is reliable, dependable and committed to its environmental promises (Chen et al., 2015); it is defined as a "willingness to depend on a product, service, or brand based on a belief or expectation resulting from its credibility, benevolence, and environmental performance" (Chen, 2010, p. 309; Chen & Chang, 2012, p. 511). This green trust is essential to low-carbon tourism since green product development and marketing have grown in importance in the industry (Choi et al., 2015; Dodds & Joppe, 2001). Chen and Chang (2012) demonstrated the positive relationship between green trust and green intentions. Green trust is a level of positive expectation and confidence that another party will keep their pro-environmental promise, thereby helping to increase green behavioral intention. Hence, having green trust is a requirement for business success in low-carbon tourism.

Yadav et al. (2019) found that green trust advocates provide green claims and information about products' environmental practices. However, Cho et al. (2016) argued that so-called low-carbon tours were just a marketing ploy for Taiwanese travel agencies, who did not

implement actual practices for carbon reduction or offer any tangible results. Therefore, it is of value to investigate the relationship between green trust in Green Mark services and products and the related promotion intentions of travel agencies. In sum, travel agencies should nurture green trust in Green Mark services (such as Green Mark hotels) that support low-carbon tourism by providing credible products with an equal focus on the economic, environmental, and social dimensions. Additionally, empirical analyses (Chen & Chang, 2012; Choi et al., 2015) show that green trust directly influences one's intentions and predicts pro-environmental intentions via the Theory of Planned Behavior (TPB). Consequently, this study examined how green trust influences the intention to promote low-carbon tours among travel agencies based on the Theory of Planned Behavior (TPB) at the enterprise level.

2.4 | Theory of planned behavior

Arslan and Şar (2017) found that the TPB was an appropriate theory for the assessment of green management intentions of decision-makers at the organizational level of different companies. Notably, Han (2015) and Han et al. (2010) applied the TPB to predict pro-environmental intention. The TPB primarily includes the rational choice model to explain personal decision-making processes and extends Ajzen's (1991) theory of reasoned action (TRA).The TPB model suggests that personal behavior is also determined by non-volitional factors; therefore, the model can effectively and precisely predict behavioral intentions and interpret such behaviors (Ajzen, 2002; Han et al., 2010).

In the TPB model, behavioral intentions are a function of three constructs: attitudes toward the behavior, subjective norms concerning the behavior; and perceived behavioral control consisting of both voluntary (attitude and subjective norms) and involuntary (perceived behavioral control) factors (Ajzen, 1991). Attitudes are positive inclinations toward engaging in a particular behavior, such as people's desires to stay at green hotels and to experience local cuisine (Han, 2015; Han et al., 2010; Levitt et al., 2019). Subjective norms are beliefs about the expectations of important people, such as customers, peers, family or friends, as well as a motivation to comply with the expectations of those people (Yuzhanin & Fisher, 2016). Perceived behavioral control denotes stakeholders' perceptions of their capacity to perform a particular behavior (Arslan & Şar, 2017). Existing empirical studies suggest that the TPB holds satisfactory predictive power in green decision-making (Arslan & Şar, 2017; Paul et al., 2016). However, limited research to date examines the low-carbon tour sales intentions of travel agencies.

3 | HYPOTHESES DEVELOPMENT

3.1 | Conceptual model

Tourism services are largely intangible and thus travel agents function in a customer-oriented way by analyzing client needs and shaping

their offers accordingly (Hennig-Thurau, 2004). Yadav et al. (2019) found minimal research on green trust and the TPB for intangible services. However, previous e-commerce studies offer sufficient evidence with which to develop hypotheses. The proposed relationships among green trust, the three constructs of TPB, and travel agency intentions to promote low-carbon tours are shown in Figure 1. There are four independent variables (green trust, attitudes, subjective norms, and perceived behavioral control) and one dependent variable (behavioral intention).

3.2 | Green trust and behavioral intention

Green trust has a positive influence on behavior and intentions (Chen et al., 2019; Yadav et al., 2019). Roy et al. (2017) said trust is central to tourism stakeholders, as well as personal and organizational relationships. For travel agencies that engage in low-carbon tours, the assurance that their chosen supplier actively engages in reducing greenhouse gas (GHG) emissions can be imperative because it not only affects tourism stakeholders' trust, but also serves as a success factor in their marketing strategy and meets green demand trends. Thus, green trust is significant in green marketing (Chen et al., 2019; Chen & Chang, 2012) and trust creates an exchange relationship and influences personal attitudes toward intent (Kalafatis et al., 1999).

Choi et al. (2015) asserted that green trust positively influences green behavior intention, and that a deeper understanding of green intentions is required to refine green marketing strategies (De Silva et al., 2020). Further, Kalafatis et al. (1999) found that some companies promote new products with misleading green claims (greenwashing), which reduces consumer trust and lowers purchase intention. Additionally, Polonsky et al. (2010) argued that carbon offset marketing and messages are potentially misleading and may erode consumer trust and confidence in green products. According to Chen and Chang (2012, p. 516), "firms should incorporate their environmental mission into their business strategies rather than to only promote their green products." Thus, this study proposed that a travel agency's level of green trust in Green Mark products and services is a prerequisite that influences their decision to promote low-carbon tours, as expressed by the following hypothesis:

H1. Green trust toward Green Mark products and services is positively associated with the intention to promote low-carbon tours.

3.3 | Green trust and TPB constructs

Wu and Chen (2005) argued that trust is an important factor determining attitudes toward behavior, subjective norms, and perceived behavioral control. Lee (2009) proposed that trust is essential in predicting personal intention in online trading. Pavlou and Chai (2002) and Pavlou and Fygenson (2006) found trust influences attitudes and perceived behavioral control in e-commerce. The cost–benefit paradigm illustrates that trust can be a direct influencer that determines

FIGURE 1 Conceptual model [Colour figure can be viewed at wileyonlinelibrary.com]
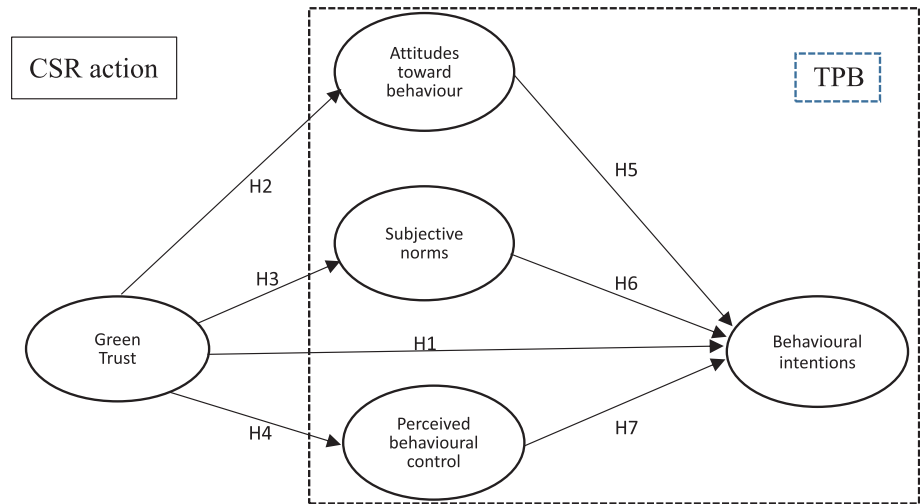
people's attitudes and intentions (Chen, 2010; Chen & Chang, 2012; Wu & Chen, 2005). Also, based on social cognitive theory, the TPB is appropriate for predicting intention for green decision-making not only at a personal level but also at an organizational level (Arslan & Şar, 2017). Consequently, the study applied green trust and TPB to explain the intention of travel agencies to promote low-carbon tours.

Attitude refers to an individual's evaluation of the positive and negative characteristics of an object of focus, and credibility of a given behavior in a given context (Ajzen, 1991). Punyatoya (2015) found that trust in an environmentally friendly brand significantly influences attitudes, which further impacts purchasing intentions. Similarly, Wu and Chang (2006) found that trust helps to consolidate positive attitudes toward business transactions with travel agencies. Hence, this study hypothesized that green trust in Green Mark products and services has a positive impact on attitudes as follows:

H2. Green trust toward Green Mark service and products positively influences attitudes in promoting low-carbon tours.

With respect to behavior, Ajzen (1985) defined subjective norms as individuals' perceptions of whether other stakeholders would accept their behaviors prior to conducting an action. Lee (2009) mentioned that subjective norms in mutual trust and influence between users and information system units are highly correlated with each other, based on a study concerned with the performance of information systems groups (Wu & Chen, 2005). Additionally, Taylor and Todd (1995) analyzed the TPB model and revealed that there are both peer and supervisor-based influences on users when determining subjective norms for information system usage. In other words, trust between peers and superiors about their beliefs in information system usage plays a prominent role in determining subjective norms. Likewise, the evidence provided by online trading and online tax adoption studies showed that trust positively influences subjective norms (Lee, 2009; Wu & Chen, 2005). Hence, the following hypothesis was proposed:

H3. Green trust toward Green Mark services and products positively influences subjective norms in promoting low-carbon tours.

Ajzen (1991) proposed perceived behavioral control (PBC) to explain individuals' behavior under involuntary control. Shih and Fang (2004) found that trust influences PBC through the controlling factors of self-efficacy and the facilitation of favorable conditions. In addition, a cross-cultural empirical study indicated that trust influences intentions through PBC in the e-commerce field (Pavlou & Chai, 2002). Pavlou and Fygenson (2006) also found that trust in e-commerce positively influences intention directly and indirectly through attitudes and PBC. These findings suggest that green trust may facilitate the formation of an impression toward Green Mark services and products, which, in turn, may influence the PBC of travel agencies. Hence, the following hypothesis was reached:

H4. Green trust toward Green Mark services and products positively influences perceived behavioral control in promoting low-carbon tours.

3.4 | Relationships among TPB variables

Previous studies using the TPB to study tourism have demonstrated the positive effects of attitudes, subjective norms, and PBC on behavioral intention. In particular, Han (2015) found that attitudes, subjective norms, and PBC significantly influence travelers' pro-environmental behavioral intent for green hotel stays; Han et al. (2010) examined the effect of environmentally friendly activities by applying the TPB to green hotel choice. Yuzhanin and Fisher (2016) characterized the TPB as an efficacy theory of predicting intentions to choose tourism destinations. Similarly, Han and Yoon (2015) found that extending the TPB could predict personal intention to stay at an environmentally responsible hotel and likewise purchase intentions toward green products (Paul et al., 2016). In addition, Arslan and Şar (2017) reported that the TPB predicts green management intention at the firm level. Existing empirical studies conclude that the TPB has satisfactory predictive power in green decision-making intentions. As postulated, the TPB assumes three predictors of intent: attitudes, subjective norms, and perceived behavioral control (PBC). Based on these arguments, the following hypotheses were proposed:

TABLE 1 Questionnaire items and reference sources

Constructs	Questions	References
Attitudes toward behavior (ATT)	For me, promoting a low-carbon tour is: 1. Extremely bad (1)/Extremely good (7) 2. Extremely undesirable (1)/Extremely desirable (7) 3. Extremely unpleasant (1)/Extremely pleasant (7) 4. Extremely foolish (1)/Extremely wise (7) 5. Extremely unfavorable (1)/Extremely favorable (7) 6. Extremely unenjoyably(1)/Extremely enjoyable (7) 7. Extremely negative (1)/Extremely positive (7)	Ajzen (1991), Ajzen and Fishbein (1980), and Han et al. (2010)
Subjective norms (SN)	1. Most people who are important to me (e.g., peers, customers) think I should promote a low-carbon tour 2. Most people who are important to me would want me to promote a low-carbon tour 3. People whose opinions I value would prefer that I promote a low-carbon tour	Ajzen (1991), Han (2015), and Han et al. (2010)
Perceived behavioral control (PBC)	1. Whether or not to promote a low-carbon tour in the future, is completely up to me 2. I am confident that if I want to, I could promote a low-carbon tour when marketing 3. I have the resources (low-carbon information, time, and opportunities) to promote a low-carbon tour when marketing package tour 4. I believe I have the ability to promote a low-carbon tour in the future 5. There are likely to be plenty of opportunities for me to promote low-carbon tours	Ajzen (1991), Chen and Peng (2012), Dean et al. (2012), Han (2015), Han et al. (2010), Han and Yoon (2015), Paul et al. (2016), and Sparks and Browning (2011)
Behavioral intentions (BI)	1. I intend to promote low-carbon tours because of its environmental concern 2. I expect to promote low-carbon tours in the futures because of its environmental performance 3. It is likely that I will promote low-carbon tours in the near future because it is environmental-friendly	Chang and Chen (2008), Chen and Chang (2012), and, Pavlou and Chai (2002)
Green trust (GT)	1. I feel that the environmental reputation of Green Mark service product (e.g., green mark hotels) is generally reliable 2. I feel that the environmental performance of Green Mark service product is generally dependable 3. I feel that the environmental claims made by Green Mark service products is generally trustworthy 4. The environmental concerns of Green Mark service product meets my pro-environmental expectations 5. The Green Mark service product upholds its promise to environmental protection	Chen (2010), Chen and Chang (2012), and Choi et al. (2015)

H5. Attitudes positively influence the intention to promote low-carbon tours.

H6. Subjective norms positively influence the intention to promote low-carbon tours.

H7. Perceived behavioral control positively influences the intention to promote low-carbon tours.

4 | METHODOLOGY

4.1 | Measurement scales

The conceptual model contained five constructs that were measured using previously validated scales and relevant to the study's purposes. There were four assessment criteria for TPB (attitudes, subjective norms, perceived behavioral control and intention to promote low-

carbon tours), which were evaluated using multiple items drawn from related literature. The seven items assessing attitudes (ATT) were taken with minor modifications from Ajzen (1991), Ajzen and Fishbein (1980), and Han et al. (2010). Three items evaluating subjective norms (SN) were adopted with very few modifications from Ajzen (1991), Han (2015), and Han et al. (2010). Five items measuring perceived behavioral control (PBC) were referred from Ajzen (1991), Chen and Peng (2012), Dean et al. (2012), Han (2015), Han et al. (2010), Han and Yoon (2015), Paul et al. (2016), and Sparks and Browning (2011). Three items gauging behavioral intention (BI) to promote low-carbon tours were adopted with minor modifications from Chang and Chen (2008), Chen and Chang (2012), and Pavlou and Chai (2002). In addition, the five items assessing green trust (GT) toward Green Mark products and services were adapted from Chen (2010), Chen and Chang (2012), and Choi et al. (2015). Table 1 shows the assessment items and reference sources.

4.2 | Questionnaire design

The questionnaire comprised three sections. The first introduced the research purpose and defined terms related to green trust and low-carbon tours. The second included items for assessing the study's five variables (GT, ATT, SN, PBC, and BI). A seven-point Likert scale, as used in Bollen (1989), was employed to rate each item, with values ranging from one ("totally disagree") to seven ("totally agree"). The questionnaire's third section noted the respondents' background information. These items were adopted from past studies, with minor modifications to suit the present research context. The English items were first translated into Chinese and then back-translated to English by experts to ensure consistency in meaning; six experts from the tourism industry reviewed the translated questionnaire, and sentences with unclear and inappropriate wording were further revised. In addition, 50 tour company employees (managers, chief executive officers and presidents of travel agencies) were asked to complete questionnaires to ensure each question was clearly articulated (Converse et al., 1986). The use of the critical value of 0.5 for significance predicted the decision outcomes of these items in a subsequent confirmatory factor analysis. Based on the results, only one item from the "attitude" section was deleted: "*For me, promoting a low-carbon tour is extremely negative (1)/extremely positive (7).*"

Kezar (2000) stated that pilot studies are necessary and useful in providing the groundwork for exploratory research projects and should equate to 10% of the intended sample size. The study collected 70 valid responses from 74 travel agency personnel partaking in a "familiarization tour" of Mainland China. Eighty survey questionnaires were handed out in hard copy and a link for online survey completion was provided to those who chose that option. The respondents included tour planners, managers, and presidents – all key decision-makers involved in promoting tours. As Churchill (1979) suggested, the pilot study is a reference point for examining a questionnaire's content validity and reliability. The results demonstrated that the five constructs' Cronbach's alphas were greater than 0.7,

indicating satisfactory content validity and reliability. Table 2 displays the items for each variable.

4.3 | Sampling and data collection

In line with travel agency sales models (e.g., online and offline travel agencies) and based upon a business contact list provided by the Taiwan Tourism Bureau, research data were collected through two channels: in person or by mail (offline channel), and through Google Forms (online channel). Potential candidates were approached by phone, and the link for the online survey (http://googl/forms/nGhSynHNYP3sN4Om2) was sent after the candidate had agreed to participate. In order to raise the response rate, the study also sampled targeted experts who were practitioners directly involved in travel agency management, including seven major travel agent CEOs, two chairmen of Taiwan's main City Association of Travel Agents, and the vice-chairman of the Certified Travel Councilor Association (CTCA). The candidates' firm data was kept separate to ensure that they were not sampled twice.

The respondents consisted of managers and executives from travel agencies (GTAs and TOTAs) in Taiwan who were responsible for promoting tours; their intentions affect company market orientations and performance (Lin & Brown, 2010). The research was conducted between May and July 2017 and was based on the stratified convenience method, whereby every stratum adequately represented its research subjects (Taherdoost, 2016). The snowball sampling method was also applied and helped to increase the response rate.

Taiwan is separated into five regions according to the business registration regional divisions for travel agencies, as noted in the Tourism Bureau's 2017 annual report, available on its website (Tourism Bureau, MOTC Republic of China (R.O.C.), 2017). By distribution ratio, the northern region comprises 56% of travel agencies, the central region 18%, the southern region 22%, the eastern region 1%, and the outlying islands 3%. Thus, the distributed surveys numbered 308, 100, 120, 6, and 16, respectively. A majority of the respondents were recruited from GTAs and TOTAs based on their capital assets, number of professional managers, and scope of business (Huang, 2008). Candidates who participated in the survey were rewarded with a NT50 (USD $1.6) gift voucher. Additionally, prior to conducting the survey, consent was obtained from the travel agency's managers and one survey was allocated for each travel agency.

4.4 | Sample profile and chi-square tests

In total, 550 questionnaires were returned: 297, 92, 118, 5, and 10 from the northern, central, southern, and eastern regions, and from the outlying islands, respectively. Excluding 95 invalid responses containing incomplete data or identical answers to all questions, 427 valid responses were collected (77.7%). The proportion of responses from online and offline channels was 65.1% (*n* = 278) and 34.9% (*n* = 149) respectively, while GTAs and TOTAs accounted for 53.4 and 46.6% of responses respectively. A majority of the respondents were

TABLE 2 Results from measurement models

Constructs	Indicators	Outer loadings	α	C.R.	AVE
Attitudes toward behavior (ATT)	For me, promoting a low-carbon tour is:				
	1. Extremely bad (1)/Extremely good (7)	0.759	0.900	0.924	0.670
	2. Extremely undesirable (1)/Extremely desirable (7)	0.852			
	3. Extremely unpleasant (1)/Extremely pleasant (7)	0.870			
	4. Extremely foolish (1)/Extremely wise (7)	0.859			
	5. Extremely unfavorable (1)/Extremely favorable (7)	0.848			
	6. Extremely unenjoyably (1)/Extremely enjoyable (7)	0.710			
Subjective norms (SN)	1. Most people who are important to me (e.g., peers, customers) think I should promote a low-carbon tour	0.856	0.816	0.890	0.731
	2. Most people who are important to me would want me to promote a low-carbon tour	0.842			
	3. People whose opinions I value would prefer that I promote a low-carbon tour	0.866			
Perceived behavioral control (PBC)	1. Whether or not to promote a low-carbon tour in the future, is completely up to me	0.768	0.876	0.910	0.668
	2. I am confident that if I want to, I could promote a low-carbon tour when marketing	0.824			
	3. I have the resources (low-carbon information, time, and opportunities) to promote a low-carbon tour when marketing package tour	0.821			
	4. I believe I have the ability to promote a low-carbon tour in the future	0.843			
	5. There are likely to be plenty of opportunities for me to promote low-carbon tours	0.829			
Behavioral intentions (BI)	1. I intend to promote low-carbon tours because of its environmental concern	0.794	0.754	0.859	0.670
	2. I expect to promote low-carbon tours in the futures because of its environmental performance	0.803			
	3. It is likely that I will promote low-carbon tours in the near future because it is environmental-friendly	0.859			
Green trust (GT)	1. I feel that the environmental reputation of Green Mark service product (e.g., green mark hotels) is generally reliable	0.846	0.887	0.917	0.688
	2. I feel that the environmental performance of Green Mark service product is generally dependable	0.857			
	3. I feel that the environmental claims made by Green Mark service products is generally trustworthy	0.855			
	4. The environmental concerns of Green Mark service product meets my pro-environmental expectations	0.792			
	5. The Green Mark service product upholds its promise to environmental protection	0.794			

Abbreviations: AVE, average variance extracted; CR, composite reliability; α, Cronbach's alpha.

responsible for outbound travel products (36.5%), followed by those responsible for both inbound and outbound travel products (24%). There were more female respondents (60.2%) than male (39.8%). Most respondents were aged 26 to 35 (34.3%), or 36 and 45 (29.2%), and had a university education (65.1%). Approximately one third of respondents (29.2%) had worked in the industry for 6–10 years, followed by respondents with industry experience of 11–15 years (22.9%). A majority of the respondents were managers (73.8%), and

package tours appeared to be the most common product (60.8%). Data S1 provides more detailed information on the respondent profile.

Chi-square tests were conducted using SPSS 21 software to detect potential differences between the online and offline (hard copy) survey responses. The results showed that no significant differences existed in business type, gender, age, education, job title, and service sector between the online and offline survey responses.

5 | RESULTS

PLS-SEM is generally used to construct predictive models due to its superior predictive and explanatory power (Hair et al., 2017). Since this study investigated the effect of green trust on travel agency attitudes, subjective norms, perceived behavioral control, and behavioral intentions for promoting low-carbon tours, the focus of the investigation was on the evaluation of a set of predictive relationships rather than theory testing or confirmation. The PLS approach was applied to analyze the measurement and structural models. The results were interpreted with standardized path coefficients and coefficients of determination (R^2), with the bootstrap samples set at 5000 (Hair et al., 2017). The following sections provide the analysis results from the measurement and structural models, respectively.

5.1 | Measurement model analysis

SmartPLS 2.0 M3 software was used to perform the confirmatory factor analysis to examine the questionnaire's convergent validity, internal consistency, reliability, and discriminant validity. As Table 2 reveals, all items' outer loadings scored between 0.710 and 0.866. Additionally, the Cronbach's α (>0.07), composite reliability (>0.7), and outer loadings (>0.5) were greater than standard values, indicating the questionnaire had high reliability, validity, and internal consistency (Hair et al., 2012). The average variance extracted (AVE) was greater than 0.5, indicating that the questionnaire had satisfactory convergent validity (Fornell & Larker, 1981).

Henseler et al. (2015) suggested the Heterotrait–Monotrait ratio of correlations (HTMT) to check discriminant validity. If the HTMT ratio of correlations between the constructs is greater than one, the data lack discriminant validity (Alarcón et al., 2015). Table 3 illustrates the results; specifically, the diagonal elements include the square root of each construct's AVE, and the other values are the correlation coefficients between constructs. The results indicated that no item cross-loaded higher on another construct than on its own construct, thereby indicating that the questionnaire had satisfactory discriminant validity.

5.2 | Structural model analysis

The bootstrapping method was applied to examine the causal relationships between the latent variables in the structural model. It was set at 5000 to calculate the standard error at a 95% confidence level. Specifically, the β value (path coefficient) was used to evaluate the significance and identity of the paths and causal relationships between the latent variables (Hair et al., 2017). Figure 2 presents the results, which confirmed that green trust (GT) positively impacted behavioral intention (BI); the β value was (GT → BI, β = 0.153, t = 2.883, p < 0.01), as well as attitude toward behavior (ATT), subjective norms (SN) and perceived behavioral control (PBC), where the β values were (GT → ATT, GT → SN: β = 0.708, t = 20.069, p < 0.001; β = 0.730,

t = 21.651, p < 0.001 and PBC β = 0.651, t = 15.555, p < 0.001). Thus, H1, H2, H3, and H4 were supported.

Attitudes toward behavior (ATT) positively impacted behavioral intentions (BI) (ATT → BI: β = 0.438, t = 9.001, p < 0.001). Similarly, subjective norms (SN) and perceived behavioral control (PBC) positively influenced behavioral intentions (BI) (SN → BI: β = 0.176, t = 4.352, p < 0.001; PBC → BI: β = 0.225, t = 5.277, p < 0.001, respectively). Hence, H5, H6, and H7 were also supported. Table 4 and Figure 2 summarize the results for all the hypotheses.

As shown in Table 4, all the seven paths estimated were significant. Green trust positively impacted behavioral intentions. Additionally, attitudes, subjective norms, and PBC demonstrated explanatory power R^2 = 73.1% (73.1%) for behavioral intention, and an R-square value of more than 0.7 (r > 0.7) is generally considered to indicate a strong effect size (Zikmund, 2000). Subjective norms, influenced by green trust, displayed more predictive strength (53.4%) than attitudes influenced by green trust (50.1%) and PBC (42.3%). This supported the earlier argument that green trust positively affects travel agency attitudes, subjective norms, and PBC regarding the intention to promote low-carbon tours.

This study used bootstrapping to examine indirect effects. Path coefficients calculated the values of VAF using the following formula: VAF = indirect effects/total effects. Table 5 displays the indirect effects of the relationships. The indirect influence value of green trust on behavioral intentions via attitudes toward the behavior was $0.708 \times 0.408 = 0.289$, while the total effect was 0.442, and so the VAF value was 0.654 (65.4%). The value of the indirect influence of green trust on behavioral intentions via subjective norms was $0.730 \times 0.176 = 0.128$, while the total effect was 0.281, so the VAF value was 0.456 (45.6%). Finally, the value of the indirect influence of green trust on behavioral intentions via perceived behavioral control was $0.651 \times 0.225 = 0.146$; while the total effect was 0.299, so the VAF value was 0.488 (48.8%). Hair et al. (2017) stated that if the VAF is between 20 and 80% that implies partial mediation. Therefore, the relationship between green trust and behavioral intention represented partial mediation of attitudes toward the behavior, subjective norms and perceived behavioral control.

In order to ensure that there was no overlap among variables, and that the results represented the true relationships between potential

TABLE 3 Correlations and discriminant validity

	ATT	BI	GT	PBC	SN
ATT	**0.819**				
BI	0.805	**0.819**			
GT	0.708	0.718	**0.829**		
PBC	0.730	0.737	0.651	**0.817**	
SN	0.700	0.720	0.730	0.646	**0.845**

Note: All the correlations were significant at p < 0.01. Bold values in the diagonal are the square roots of average variance extracted from the constructs.

Abbreviations: ATT, attitudes toward behavior; BI, behavioral intentions; GT, green trust; PBC, perceived behavioral control; SN, subjective norms.
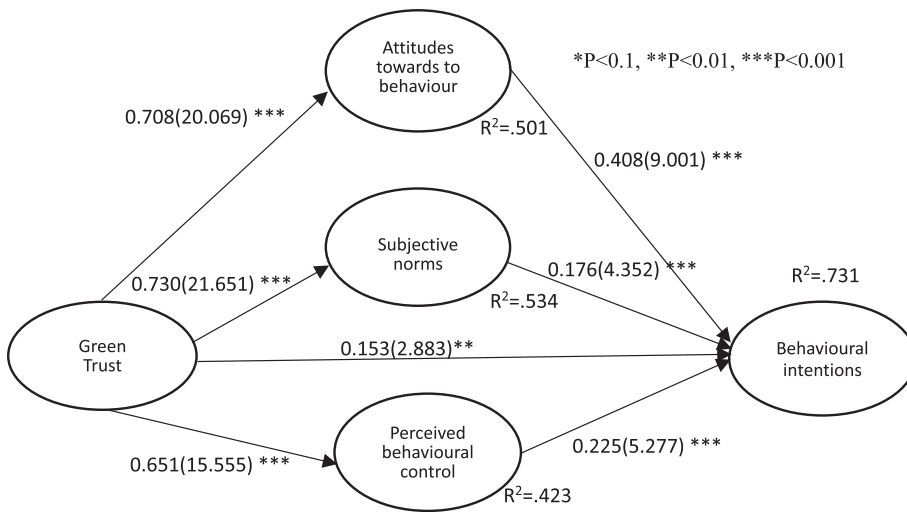
FIGURE 2 Structural model analysis

TABLE 4 Hypotheses test results

Hypothesis	Path	β	t-value	Results
H1	Green trust→ Behavioral intentions	0.153	2.883	Supported
H2	Green trust→ Attitudes toward the behavior	0.708	20.069	Supported
H3	Green trust→ Subjective norms	0.730	21.651	Supported
H4	Green trust→ Perceived behavioral control	0.651	15.555	Supported
H5	Attitudes toward behavior→ Behavioral intentions	0.408	9.001	Supported
H6	Subjective norms→ Behavioral intentions	0.176	4.352	Supported
H7	Perceived behavioral control→ Behavioral intentions	0.225	5.277	Supported

R^2 Attitudes toward behavior = 50.1%
Subjective norms = 53.4%
Perceived behavioral control = 42.3%
Behavioral intentions = 73.1%

TABLE 5 Indirect effects

Path	a	b	Indirect effect (a × b)	Total effect	VAF
Green trust→ Attitudes toward behavior→ Behavioral intentions	0.708	0.408	0.289	0.442	0.654
Green trust→ Subjective norms → Behavioral intentions	0.730	0.176	0.128	0.281	0.456
Green trust→ Perceived behavioral control→ Behavioral intentions	0.651	0.225	0.146	0.299	0.488

Abbreviation: VAF, variance accounted for.

TABLE 6 The result of common method variance (CMV)

Model	χ^2	df	$\Delta\chi^2$	Δdf	p
Single factor	574.606	195	111.608	4	0.000
Multifactor	462.998	191			

aspects in the self-report questionnaire measurement (Podsakoff & Organ, 1986), the procedures conformed to the model proposed by McFarlin and Sweeney (1992). Confirmatory factor analysis (CFA) was adopted and the research model was divided into single and multifactors to investigate the potential for a common method variance

(CMV) problem. The results showed (Table 6) that there were no significant differences between the two models, and there were no CMV-related issues in this research.

6 | CONCLUSIONS AND IMPLICATIONS

6.1 | Conclusions

Through CSR, tourism companies can contribute to sustainable development (Mao et al., 2020) by embracing concepts such as low-carbon

tourism and environmental protection. This study provides insights into understanding low-carbon tourism development from the perspective of travel agencies through an original conceptual framework. It combines CSR, green trust, and TPB theory to gauge travel agencies' intentions to promote low-carbon tours, which help drive sustainable development in tourism. It proposes the idea that greenhouse gas (GHG) emissions in tourism can potentially be reduced through the sale of low-carbon tours by travel agencies. Travel agencies can assist in the development of sustainable tourism by sharing low-carbon travel information with their clients and suppliers, and thus make positive contributions to ensuring environmental, social–cultural, and economic sustainability (Font & Cochrane, 2005; Yfantidou & Matarazzo, 2017).

PLS-SEM was applied and uncovered a link between green trust and intentions to promote low-carbon tours. This finding is consistent with previous studies showing a positive relationship between green trust and green behavioral intentions (Chen & Chang, 2012; Choi et al., 2015). Also, it demonstrated that green trust positively and directly influences attitudes, subjective norms, perceived behavioral control, and behavioral intentions. Furthermore, a significant finding in this study was that attitudes, subjective norms, and perceived behavioral control were mediators between green trust and behavioral intentions. Another important finding was that subjective norms (e.g., peers, customers) influenced by green trust displayed more predictive strength (53.4%). This suggests that, through better advertising and thus increased green trust in Green Mark products and services among the general public, travel agencies will be able to better promote low-carbon tours by enhancing other stakeholders' perceptions.

The empirical evidence from this research provides a new way to examine CSR behavior, through an institutional lens, and confirms previous results by Arslan and Şar (2017), while also showing that the TPB can be applied more extensively at an organizational level to predict behavioral intentions (Ajzen, 1985; Han et al., 2010). In particular, green trust and planned behavior theory bring corporate behavior into the social environment in which travel industries are embedded and which hold the most advanced and substantial environmental management capabilities. Further, the TPB variables have both direct and indirect effects on promoting low-carbon tour marketing intentions. Therefore, this work adds to research on the TPB theory by examining travel agency intentions to promote low-carbon tours, which were positively affected by attitudes, subjective norms, perceived behavioral control, and green trust.

6.2 | Theoretical implications

This study has three potential theoretical contributions. First, it addresses the call by Yang and Stohl (2020) for an in-depth discussion on CSR actions, as well as suggestions by Hsiao (2016) and Huang and Deng (2011) for more empirical research on travel agency attitudes and opinions toward the development of low-carbon tourism. It also corresponds to Huang and Deng's (2011) call for enhanced social, economic, and environmental benefits by reducing travel-generated

carbon emissions, and Sigala's (2008) call for travel agencies to assume greater social responsibility and do more for sustainable tourism (Font & Cochrane, 2005).

Second, the results contribute to the literature by illustrating the positive impacts of green trust on attitudes, subjective norms, and perceived behavioral control. This finding is consistent with previous studies, suggesting a positive relationship between green trust and behavioral intentions (Chen et al., 2019; Chen & Chang, 2012; Choi et al., 2015; Yadav et al., 2019). Further, the TPB variables (attitudes, subjective norms, and perceived behavioral control) had an indirect effect for green trust on behavioral intentions. Moreover, the results contribute to the literature by demonstrating that green trust not only affects attitudes, subjective norms, and perceived behavioral control, but also increases the intentions of travel agency personnel to promote low-carbon tours.

Finally, the findings confirm that focusing on green management at the firm level and relying on Ajzen's (1991) TPB to explain intentions provides results consistent with that of Arslan and Şar (2017), who argued that TPB was an appropriate theory for green management at the firm level, though past studies have overwhelmingly focused on customers' green perspectives in hospitality and tourism (Han et al., 2010, 2011; Han & Yoon, 2015; Paul et al., 2016). The contributions add value to current research on low-carbon tourism and may serve as a guide to low-carbon marketing strategies for travel agency managers when promoting such products.

6.3 | Managerial implications

This study offers tourism policy administrators a profound examination of the majority of recent studies on low-carbon tourism development and green trust in the Green Mark system from the perspective of travel agencies. Few previous studies have weaved this type of low-carbon tourism evaluation into a single framework (Cho et al., 2016; Hsiao, 2016). These findings provide deeper insights into how travel agencies feel about green trust in the Green Mark system and their willingness to promote low-carbon tours as a form of CSR to their clients. This theoretical framework may assist policymakers in the adjustment of carbon subsidies, as promoting energy savings and carbon reduction are broadly advocated worldwide (Trappey et al., 2012). Moreover, the benefits of low-carbon consumption should be actively and widely communicated, not just to travel agencies, suppliers and clients, but also to the general public, who could be encouraged to more frequently select low-carbon products. Customer pressure on the supply side can be a powerful tool for sustainable tourism development (Timur & Getz, 2009). Policymakers should act on consumer sentiment and impartial evaluations to establish measures that ensure the maintenance of environmental and social responsibility in tourism. The determination of travel agencies to develop low-carbon tourism may be one of the viable ways to help reduce carbon emissions.

Travel agencies believe that green trust is important when promoting low-carbon tours. In this sense, the study confirms the findings

of Chen and Chang (2012), who recommended that companies share trustworthy information with clients while developing environmentally friendly products to gain green trust prior to implementing green marketing strategies. Sufficient green trustworthiness information not only makes green decisions easier but also reduces customers' perceived risks and facilitates green purchase intentions (Chen, 2010; Chen & Chang, 2012). In addition, since environmental concerns have become a mainstream issue due to greater global awareness, more companies are expressing a desire to utilize green opportunities (Chen & Chang, 2012). Hence, tourism marketers should seize the opportunity to apply low-carbon marketing strategies, thereby enhancing their competitiveness. In particular, since Green Mark services and products are certified by the Taiwanese government, making them more trustworthy and credible, travel agencies should consider planning outbound, inbound, and domestic tour packages as a new business opportunity. Tourism marketers also need to be aware that information on low-carbon tourism products must be consistent with claims to gain the green trust from not only tourism suppliers but also customers. Green marketing used alone to attract customers will not help in raising green purchase intentions (Chen et al., 2019; Chen & Chang, 2012; Cho et al., 2016). Finally, it is essential for travel agencies to share information on low-carbon tours with their tourism suppliers (hotels, restaurants, etc.) and tourism stakeholders (local communities, tourists, etc.), and to promote trust in Green Mark certification so that tourism suppliers and vendors at tourist destinations can implement low-carbon tourism, thereby alleviating problems to do with carbon emissions and achieving the goal of sustainable tourism.

6.4 | Limitations and suggestions for future research

Although the findings hold both academic and practical value, it is also necessary to note their limitations. First, the survey is Taiwan-based, and the findings may not be applicable to other countries and cultures (Oreg & Katz-Gerro, 2006). Therefore, the impact of cross-cultural differences needs to be considered when incorporating green trust into the TPB model. Second, this research used the stratified convenience and snowball sampling methods to collect data. As the snowball sampling method is a nonrandom sampling technique, researchers' personal biases may have been present in the respondent-referral process; hence, the samples collected may not fully represent the sample population (Cooper et al., 2006). Thus, future studies should incorporate random sampling techniques. Third, the sample was not only chosen from a single professional field, but respondents also possessed knowledge of trends concerning customers' green needs (Chen & Chang, 2012). If future studies draw on samples from other industry sectors, it is suggested that respondent education levels, working tenure (years) and job titles be tested for significant effects. Fourth, the respondents may work at travel agencies that promote low-carbon tours but might not personally be interested in engaging in green practices, and future researchers should be aware of this point. Finally, since the keywords used in the questionnaire included

the terms "low-carbon" and "environmental protection," respondents may have experienced moral pressure when answering the questions, especially given the widespread social emphasis on reducing carbon emissions. Therefore, caution should be exercised when using the findings for general interpretation.

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