# Insights on Millennial's **Purchase Intention** Towards Green **Online Travel Products** in Malaysia: The Road to Recovery

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**Abstract** | The reopening of borders and revitalization of the tourism and hospitality industry has transformed the booking behaviours of travelers significantly. The millennial travelers prefer online travel agencies because of its convenience, but they also crave for more sustainable travel products. This study aims to determine the influences of attitude, subjective norm, perceived price, online review trust, perceived risk, and online experience towards the purchase intention of green online travel products (GOTP) in Malaysia. Responses were elicited from 391 millennials. Using structural equation modelling, the findings confirm that all the factors significantly affected attitude and it mediates their intention. This study gave insights on millennial's green travel preferences and highlights the need for online travel agencies to rethink their strategies.

**Keywords** | Attitude, green marketing, online experience, perceived risk, sustainable tourism

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# 1. Introduction

## 1.1. Overview of Environmental Sustainability and the Millennials

Concerns were raised on saving natural resources, reducing environmental harm, meeting the green needs of society, and improving quality of life, making environmentally sustainable consumer behaviour an important topic that has an increasing attention in the consumer marketplace and academia (Dong et al., 2020). Without a doubt, environmentally responsible consumer behaviour is a vital part of pro-social consumption behaviours that benefit not only the environment but society as a whole (Halder et al., 2020). In the hospitality and tourism sector, sustainable consumption is becoming a pressing concern due to serious environmental issues (Wang et al., 2020). The importance of eco-friendly consumption and sustainable product creation is growing in the modern tourist and hospitality business as more people are aware that many significant environmental deteriorations are rooted in tourism activities/development (Trang et al., 2019).

Tourism and hospitality businesses are rapidly demonstrating a trend towards becoming proactive in greening their operations and products in response to this demand and the environmentally concerned nature of the market (Hopkins, 2020). Environmentally sustainable consumer behaviour has been defined by academics in the fields of environmental behaviour and consumer behaviour (Joshi & Rahman, 2015), but it has not been adequately conceptualised in the travel and hospitality industry. Furthermore, although significant work has been done to apply and enhance current theories in social/environmental psychology (Young et al., 2020), in-depth debates on ecologically sustainable consumer behaviour and its related ideas are still absent. Understanding the factors that motivate people to act sustainably is also essential for developing plans that effectively lessen tourism's

harmful effects on the environment (Xu et al., 2020). Yet, there has not been a sufficient number of studies and debates of essential principles that promote environmentally friendly customer behaviour in the tourism and hospitality industries (Han, 2021).

According to Deloitte Global Millennial Survey (2021), the shift towards responsible travelling is more prevalent post-Covid as millennials believe in individual action to drive change. Besides, The Travel and Trend Report (2020) found that millennials expressed growing interest in conscious consumptions, they value experiences over materials, are more tech savvy with higher preference for online travel agencies (OTAs). The millennial generation is often cited as being more tech-savvy than previous generations because of their reliance on the Internet as a source of knowledge and guidance (Liu et al., 2019). There has also been a worldwide trend towards the so-called "Millennial Moment," during which members of the millennial generation will have unprecedented influence in the world's most important industries and institutions (Zachara, 2019). Millennials in Malaysia spend a lot of time online because of the growing popularity of the internet, and this has an effect on their preferences when shopping. Considering their potential as a nation's future prospect (Muda et al., 2016), they are an intriguing research topic.

Following the outbreak of Covid pandemic and closing of borders, Malaysia saw a significant decrease in the number of foreign tourist arrivals by 83.4% in 2020 (Tourism Malaysia, 2022). On the domestic front, there was a decline of 45.4% and it was reported that in 2020, economic contribution related to the tourism industry in Malaysia were so badly hit by the pandemic that it caused an estimated loss of exceeding RM100 billion. This is a resounding trend across for the tourism sector not just in Malaysia but also for many other countries. Moving forward, Tourism Malaysia Strategic Plan 2022 - 2026 aimed to position domestic tourism as a prime source of the country's revenue.

Aligned to this, the government set a target of total revenue of RM 100mil from domestic tourists by the year 2025 (Tourism Malaysia, 2022). To encourage Malaysians to travel locally, many initiatives leveraged on digital platforms. For example, the Malaysia digital travel fair, e-Travel Mall alongside collaborations with online travel agents (OTAs) (Tourism Malaysia, 2020). Malaysia expects a continuation in nature-based travels including open-air activities. These trends indicate the traveller's way of managing risks and greater appreciation for the nature. Experiential and niche tour packages were developed aligned with National Tourism Policy 2020-2030, the United Nation's Sustainable Development Goals (UNSDGs) as well as the National Ecotourism Plan 2016-2025 and National Cultural Policy 2021. Whilst this may be a good sign towards reviving the industry, the underlying environmental challenges could be further exacerbated as the surge in number of tourists to local destinations (Sinay et al., 2020).

Past studies have been conducted to understand millennials' sustainable travel patterns and also to examine their acceptance towards technology like OTAs (Zolkopli et al., 2016; Anuar et al., 2018), yet these were normally investigated separately. Thus, there is still limited empirical evidence specifically towards millennial's preference towards buying online green travel products. This paper aims to gain insights on millennials green online travel products (GOTP) purchase intention for OTAs to strategize and meet the demand for unique and sustainable travel experiences.

## 2. Literature Review and Framework Development

### 2.1. Millennial Travellers' Online Purchase Intention

As the Internet's user base expands, so do the opportunities for online shopping (Kabir & Mu-

sibau, 2018). Companies are more likely to offer their products and services online as online technologies improve. Web-based shopping has emerged as a new channel for companies and customers to interact. Online platforms have increased modern consumers' price awareness, and businesses are becoming more consumer-focused, leveraging consumer insights to influence purchase intent and maintain market profitability (Ahmad & Zhang, 2020).

Because of its "ability to reach consumers worldwide," online and social media make it simple to implement any change with large audiences and minimal effort (Reilly & Hynan, 2014). The magic of user generated content takes a comprehensive approach to sustainable behavioural practises, making it an important step towards sustainable tourism. When tourists buy or book travel products (Buhalis & Law, 2008; Jun et al., 2007), or when they want to evaluate or be advised on travel plans (Ayeh, 2015), or when they want to communicate with their social circle, they use online platform such as social media (Gossling & Stavrinidi, 2015).

Due to the "information intensive" nature of the tourism industry, the relevance of online and social media advertising has previously been noted, and thus social media promotion can be said to aid in information dissemination to tourists (Hays et al., 2013). Businesses, not just tourists, are increasing their use and reliance on IT and social media for managing and marketing their travel and tourism businesses, as well as to "communicate favourable consumer opinion" (Hays et al., 2013; Mauri & Minazzi, 2013).

This study is centred on millennials generation because 50% of the world's millennials resides in Asia and they have an increasing spending power (Sofronov, 2018). Millennials are those who born in or after 1980s and who entered the labour market in the 2000s (Pyöriä et al., 2017). It is reported that millennials are the main driver for the growth in online travel market, as they spend up to USD 200 billion every year on travel (Bisht, 2016). Amongst the cohorts, millennials travelled

the most and have the desire to travel sustainably (Moreno, Lafuente & Carreón, 2017).

In recent years, sales of environmentally friendly consumer packaged goods (CPGs) have increased significantly (Nielsen, 2019). Consumers are increasingly willing to pay a premium for "good for me and healthy for the globe"products (Nielsen, 2018). The COVID-19 pandemic also encourages consumers to consume in a more sustainable manner (Businesswire, 2020; Deringer, 2020; Rosmarin, 2020). The crisis is forcing customers to examine the environmental impact of their purchase decisions, and these changes in consumer behaviour are likely to be permanent, according to a study by Accenture (Businesswire, 2020).

During the pandemic, the booking behaviour changed significantly in terms of timing and the way used to do the booking. Travelers preferred to book last minute due to the uncertainty and Malaysian millennials were found to spend more time and effort searching online for the best offerings (Lim, Osman and Salahuddin et al., 2016). Especially in the Asia Pacific region, OTAs captured 40% of the market share and are growing fast due to high penetration of internet and smartphones (Euromonitor International, 2020). In Malaysia, more than half of the 28.7 million Internet users participated in e-commerce and travel purchases are the largest contribution at 2.7 billion (Malaysian Communications and Multimedia Commission, 2018). The most common method for millennials to plan their holiday is through OTAs (Peltier, 2016). OTAs like Booking.com and Agoda is an all-in-one platform offering air tickets, bundled packages, transportation, and leisure activities that provide convenience, updated information, fast booking and a wide choice to suit budget-conscious millennials (Elhaj & Barakeh, 2015).

The increase in exchange of goods and services through Internet has driven a growing interest in understanding online consumer buying behaviour (Victor, Thoppan & Nathan, 2018). One of the theory that is used frequently to study individuals' intention and behaviour is the Theory of Reasoned Action (TRA), whereby purchase intention is the result of attitude that leads to actual behaviour (Ajzen & Fishbein, 1980). Leeraphong and Mardjo (2013) had extended this theory by adding perceived risk, trust and past online experience to measure consumer purchase intention through online social network. Meanwhile, the research model proposed by Kusumah (2015) stated that trust, price, quality and perceived risk are the chosen factors to measure consumers purchase behaviour in online shops Instagram. As such, this study would integrate the basic variables in TRA which is attitude and subjective norms alongside perceived risk, trust, past online experience and perceived price from previous studies in the aim to predict purchase intention more precisely.

According to Hasan and Mohammad (2013), intention is defined as consumers motive to fulfil their needs. Green purchase intention is viewed as the likelihood that consumers select products that are eco-friendly (Rahim et al, 2016). As such, green purchase intention can be considered as an essential aspect of the actual green buying behaviour. In addition, online purchase intention refers to a situation where a consumer is willing to make online transactions (Liu et al., 2022). This paper defines green online purchase intention as customer's willingness with intention to purchase green products via the Internet particularly OTAs.

While academics have researched the influence of online such as social media on tourist behaviour, according to Milano et al. (2011) and Hays et al. (2013), relatively few researches have investigated the impact of social media on sustainable tourism; thus, it is still in its "infancy"stage (Han et al., 2017). The issue of sustainable tourism consumption is "rarely explored directly in tourism research or consumer behaviour studies, and the literature on the subject is frequently inconsistent (Cohen et al., 2014; Bray et al., 2011). Although the potential for online such as social media to promote sustainable tourism is well-known, given

its usage for socialisation and knowledge sharing, "few"empirical researches has been conducted on the topic (Sarkar et al., 2014).

Most practitioners are interested to discover the purchase intentions of green products to formulate appropriate strategies (He et al., 2021). Generally, consumers purchase green products when they are concerned about environmental problems (Varah et al., 2021). Paul et al. (2016) suggested that consumers from developing countries are less concerned about the environment which sparks the need for this study. Although local government agencies, tour operators, and researchers have developed numerous conservation projects, some individuals may still find it difficult to believe that their contribution will help fix environmental problems (Sandberg, 2011). Therefore, an extended Theory of Reasoned Action (TRA) had been used in this study where perceived risk, trust, past online experience, and price had been added to the model to measure consumers' purchase intention towards green online travel product.

## 2.2. Perceived Risk

Schiffman and Wisenblit (2019) defined perceived risk as the uncertainty faced by consumers when they cannot predict the impact of their purchasing decisions. Such uncertainties encompass physical, financial, and psychological risks. Perceived risk is the assessment of the negativity occurrence and a subjective perception of consumers on the possible consequences of wrong decisions associated with the purchase of green products (Juliana et al., 2020). In other words, perceived risk is the uncertainty when purchasing green products online, so it is crucial to comprehend its impact (Kakkos et al., 2015). Controlling the perceived risk of the customer towards green online products will be beneficial as it will reduce the unnecessary customer scepticism (Hsin & Wen, 2008).

Moreover, risk can be defined as the subjec-

tive loss anticipation of an online consumer contemplating a certain online transaction (Hasan and Rahim, 2008). The identified perceived risks consist of financial, product performance, social, psychological, and time convenience loss (Nenonen, 2006). If the consumer believes the risk connected with acquiring a green online travel product to be excessive, he or she will not complete the transaction. Due to the high levels of perceived risk, the customer may engage in risk-reduction activities, such as minimising the amount at stake or the perceived uncertainty of the situation.

There are two primary reasons for incorporating perceived risk in this study. First, acquiring a green online travel product through the Internet is risky because there are no set criteria required to be an online vendor. Second, some platforms may not provide buyer safeguards in the event that vendors fail to deliver what they have promised to purchasers. Based on the above, below hypothesis is postulated:

H1. The perceived risk has a negative influence on green online purchase intention.

## 2.3. Subjective Norm

Zukin and Maguire (2004) discovered that subjective norms have a major influence on green consumption, and it is an important variable in many theories related to buying behaviour. Subjective norm is defined as the perceived social pressure to conduct a behaviour that is derived from one's opinion on an individual's decision making (Han et al., 2010). Past studies have indicated that the subjective norm is an essential determinant of intention towards green products (Choi & Johnson, 2019); organic food (Dean et al. 2012); and green hotels (Teng et al., 2013). Contradictorily, some studies found that social influence is insignificant (Amaro & Duarte, 2015; Saw et al., 2015). It is argued that subjective norm is the individual's perception of the influence of people around them that this is

especially influential during the early stages to develop attitude (Islam, 2015). Hence, in this study subjective norm is examined as an influential factor towards attitude and purchase intention.

Thus, subjective norms affect customers' intentions since people often act based on what they perceive others should do. In the context of online purchase intention, it suggests that a person can be persuaded by someone significant to them who thinks they should or should not buy online. Since this study is about green online travel purchases, subjective norm is an essential factor because social media, ecommerce platforms, and online websites have high user influence.

H2. The subjective norm has a positive influence on green online purchase intention.

## 2.4. Online Experience

Past online experiences are a key factor to consider in the e-commerce context (Grabner-Krauter & Kaluscha, 2003). According to Monsuwe, Dellart, and Ruyter (2004), online shopping intention is related to online shopping history and has a direct impact on online shopping behaviour. Customers with strong online purchase intent typically have prior purchase experiences that help to reduce their uncertainties (Shim & Drake, 1990). Pentina et al. (2011) related online shopping experience with sensory, cognitive, emotional, and relational experiences. Michaud-Trévinal and Stenger (2014) define online experience as a complex dimension which encompass holistic and subjective process from the interactions between consumers and the online environment. For green products purchase, the online buying experience is enhanced if the website is time-saving and informative (Agift et al., 2014). Wu et al. (2017) claimed that as consumers gain more positive experiences, it builds consumer's attitude in terms of their confidence levels and increases their overall buying intention.

The main reason for including online purchase experience in this study is that online shopping involves more risks and trust in social networks and ecommerce websites when customers purchase green travel products online. Thus, it will be interesting to see if users' experience and skills in online effects can overcome those risks and trust. Malaysian online shoppers are technologically experienced thus consumers would rely on their own research via online sources and social media platforms (Chen et al., 2015). OTAs offer more empowerment by placing the consumer first hence OTAs should leverage on this and provide seamless experience online and offline.

H3. The online experience has a positive influence on green online purchase intention.

## 2.5. Perceived Price

Price sensitivity is the extent to which customers recognise and react to price levels and price fluctuations (Goldsmith et al., 2005). Price sensitivity can serve as a sign of a consumer's willingness to pay for the green online travel products. Therefore, price has a significant impact on consumer purchasing behaviour and, consequently, the sales and profits of a business (Han et al., 2001).

Price is the most essential attribute in purchase decisions compared to green certifications, as purchase intention for green product decreases when price increases (D'Souza et al., 2006). However, Chekima et al. (2016) indicated that premium pricing on green products has no effect on green purchasing and consumers are willing to pay up extra for eco-friendly products. Due to the inconclusive findings, the inclusion of perceived price on green products in this study would enable to address the gap that exist.

H4. The perceived price has a positive influence on green online purchase intention.

## 2.6. Online Review Trust

Prior research stated that online reviews by users are more persuasive compared to information originating from marketers (Reimer & Benkenstein, 2016). The credibility of online reviews is important if they are assumed to be independent and reliable (Plotkina & Munzel, 2016). Credible online review is crucial in consumers' decision and reduces uncertainties (Nan et al., 2017). Numerous studies examined the influence of online reviews on consumers' attitudes towards products generally, yet it ignores the impact on green products (Floyd et al., 2014; Martin & Lueg, 2013). Kim and Bensabat (2003) stated that consumers are vulnerable and likely to lose if they provide their email address, shipping information (privacy invasion), credit card information (credit card fraud) and complete online purchase transactions.

A number of factors contribute to people's trust in the online store. One is the company's perceived size, and the other is their reputation (Jarvenpaa et al., 2000). The greater a company's perceived size and reputation, the greater its credibility. Researchers have identified familiarity with the store as a precondition of trust, which is closely related to the store's reputation. Familiarity relates to an understanding of the store's current actions, whereas trust relates to beliefs about the future actions of others (Gefen, 2000). It should be noted that trust in the company is not a prerequisite for making online purchases. It has been argued that distrust in the organisation can be compensated for by confidence in the control system (Tan & Thoen, 2001). Such a control system would consist of the procedures and protocols that monitor and control the successful completion of a transaction, as well as the option to purchase damage insurance. We may not trust the internet provider, but we can rely on the performance monitoring system (Tan & Thoen, 2002). In order to address this, consumers' trust towards online reviews is deemed to be an important influencing factor. Figure 1 depicts the conceptual framework.

H5. The online review trust has a positive influence on green online purchase intention.

## 2.7. Attitude

Attitude was identified as the main factor that plays a major role in predicting intentions of consumers who will pay for green products (Kumar et al., 2021). Attitude can be referred as the psychological assessment on a product by the consumer (Ahmmadi et al. 2021). Purchase intentions have long been found to be dependent on environmental attitudes (Errmann et al., 2021). Koththagoda and Herath (2018) proposed the use of attitude as mediator between specific independent variables and purchase intention; and their result indicated that attitude is a significant mediator for purchase intention on green products. Similar finding was also found by Alargasamy et al. (2021) and van der Heijden, Verhagen and Creemers (2003) where attitude was found to have a mediating effect towards intention. This is consistent with a recent evaluation of the TRA, which acknowledged the evidence that attitudes are based not only on cognition, but also on emotion (Ajzen, 2001).

H6. Attitude has a positive influence on green online purchase intention.

H7. Attitude will mediate the relationship between perceived risk and green online purchase intention.

H8. Attitude will mediate the relationship between subjective norm and green online purchase intention.

H9. Attitude will mediate the relationship between online experience and green online purchase intention.

H10. Attitude will mediate the relationship between perceived price and green online purchase intention.

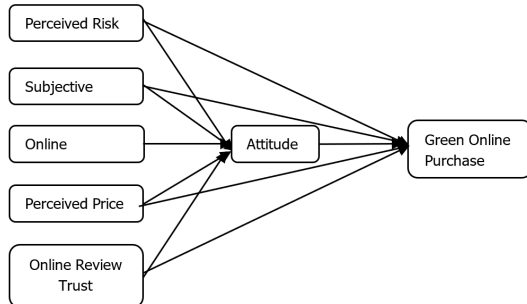H11. Attitude will mediate the relationship between online review trust and green online purchase intention.



**Figure 1** | Conceptual Framework

## 3. Methodology

### 3.1. Questionnaire Design and Sampling

To test the relationships empirically, a deductive approach was employed using a quantitative survey. The target population are millennial travellers from Malaysia. An online self-administered survey is conducted. The survey applied 5-point Likert scale and consists of three sections: Part A-Demographic Profile, Part B – Perception towards Green Online Travel Products and Part C – Purchase Intention. The survey items measuring purchase intentions were adapted from Agag and El-Masry (2016) while attitude, perceived risk and subjective norms statements were adapted from Amaro and Duarte (2015). Followed by perceived price and online review trust which were adapted from Pinto and Castro (2019); and online experience were adapted from Kwek, Chai and Tan (2010).

As the majority (72%) of Malaysian online consumers are aged between 25 to 42 (born between 1980 to 1997), the estimated sample population is around 12 million (MCMC, 2018). A purposive sampling is employed to collect the data from local Malaysian millennial travellers. Based on the targeted population, the minimum sample size is 384 (Kotrlik et al., 2001). Prior to the full data collection, the questionnaire was validated through a pilot test. A total of 30 samples was obtained and the reliability analysis was performed (Fraser, et al., 2018). The Cronbach's alpha range between 0.76 to 0.89, which is above the acceptable threshold of 0.70 (Rosaroso, 2015). SPSS v.28 software was used for descriptive analysis and the data was analysed using structural equation modelling – partial least squares (PLS-SEM) technique using the Smart PLS 3.0. SEM has the ability to reduce measurement error, improve statistical estimation of the relationships as it is a more contemporary technique that is highly utilised in tourism studies (Hair et al., 2015).

### 3.2. Descriptive Results

Table 1 shows the demographic profile of the 391 responses collected. Majority aged between 30-34 years old with almost equal participation from both genders. Most of them are single (53.1%) or married (44.2%) and majority (71%) of them has a degree. Majority (32.9%) of respondents earns between USD1,000 to 1,500. Referring to Table 2, 76% travel mainly for leisure, they prefer using laptop (49%) and smartphones (30%) and the preferred OTAs are Agoda (42.2%) and Booking.com (33.2%).

**Table 1** | Demographic Profile

| Demographic Characteristic | Frequency | Percentage |
|---|---|---|
| Age Range | | |
| 25-29 | 84 | 21.6 |
| 30-34 | 158 | 40.3 |
| 35-39 | 88 | 22.6 |
| 40-42 | 61 | 15.5 |
| Gender | | |
| Male | 201 | 51.5 |
| Female | 190 | 48.5 |
| Marital Status | | |
| Single | 207 | 53.1 |
| Married | 173 | 44.2 |
| Divorced | 9 | 2.2 |
| Widowed | 2 | 0.5 |
| Highest Education Level | | |
| High school | 29 | 7.4 |
| Diploma | 36 | 9.1 |
| Degree | 277 | 71.0 |
| Postgraduate | 49 | 12.5 |
| Monthly Personal Income Range (USD) | | |
| <1,000 | 93 | 23.8 |
| 1,000 – 1,500 | 129 | 32.9 |
| 1,501 – 2,000 | 68 | 17.3 |
| 2,001 – 2,500 | 35 | 9.1 |
| >2,500 | 65 | 16.9 |

**Table 2** | Travel Profile

| Travel Behaviour | Frequency | Percentage |
|---|---|---|
| Purpose of travelling | | |
| Leisure | 297 | 76 |
| Business | 43 | 11 |
| Visiting friends/relatives | 27 | 7 |
| Event(s) | 24 | 6 |
| Preferred device | | |
| Laptop | 191 | 49 |
| Smartphone | 117 | 30 |
| Desktop | 67 | 17 |
| Tablet | 16 | 4 |
| Most preferred GOTP sites | | |
| Agoda | 165 | 42.2 |
| Booking.com | 130 | 33.2 |
| Expedia | 64 | 16.4 |
| Hotels.com | 16 | 4 |
| Traveloka | 8 | 2.1 |
| Trivago | 6 | 1.6 |
| Others | 2 | 0.5 |

# 4. Results and Discussions

## 4.1. Structural Equation Modelling Results

Following PLS-SEM technique, measurement modelling is first performed whereby each construct in the model is analysed separately to confirm theory-based pre-specified variables. Each latent construct is evaluated by examining the standardized outer loading values (>0.7), composite reliability (>0.8), average variance extracted (>0.5) and Cronbach's alpha values (>0.7). Results are presented in Table 3 which indicates that all the measurement modelling thresholds has been met as recommended by Hair et al. (2017).

To assess the discriminant validity, the result of the HTMT criterion analysis is presented in Table 4 below. Each individual construct is considered to be distinctive as all the values are less than 0.90 as recommended by Henseler et al. (2015).

The structural model is assessed whereby the estimated path coefficient were evaluated for its statistical significance in terms of the standard errors, p-values and t-values (Hair et al., 2017). Results are shown in Table 5 and all the direct and indirect relationships were found to be significant. It is confirmed that perceived risk has a significant but negative influence while all other factors were positively related. Online experience had the highest significant influence ($\beta = 0.363$), followed by perceived price ($\beta = 0.295$), subjective norm ($\beta = 0.261$), online review trust ($\beta = 0.071$) and perceived risk ($\beta = -0.053$). To test the mediation effect, the boot-strapping method was applied, and attitude was confirmed as a mediator (Preacher & Hayes 2008).

Table 3 | Results of Convergent Validity and Construct Reliability

| Variable | Items | Outer Loadings | Average Variance Extracted | Composite Reliability | Cronbach's Alpha |
|---|---|---|---|---|---|
| Attitude | ATT1: I think buying green travel products through website is a great idea. | 0.940 | 0.870 | 0.971 | 0.963 |
| | ATT2: I have a positive attitude towards purchasing green online travel products/services. | 0.932 | | | |
| | ATT3: I think buying green travel products/services online is pleasing. | 0.929 | | | |
| | ATT4: I think buying green travel products/services online is the best. | 0.943 | | | |
| | ATT5: I think buying green travel products/services online is enjoyable. | 0.920 | | | |
| Green Online Purchase Intention | INT1: I have high intention to purchase green online travel products/services. | 0.881 | 0.827 | 0.960 | 0.948 |
| | INT2: I would definitely consider buying more sustainable travel products online in near future. | 0.917 | | | |
| | INT3: I intend to buy green travel products for my upcoming trip via online. | 0.934 | | | |
| | INT4: I would highly recommend my friends to buy green travel products via online. | 0.911 | | | |
| | INT5: I intend to make greener selection when I make online travel purchases. | 0.903 | | | |
| Online Experience | PEXP1: I consider myself to be well-experienced in using online websites. | 0.938 | 0.890 | 0.970 | 0.959 |
| | PEXP2: I think I have high competency level in making green online purchases. | 0.962 | | | |
| | PEXP3: I feel comfortable to make green purchases online based on my prior experience. | 0.948 | | | |
| | PEXP4: I am confident of my skills in making green online purchases. | 0.924 | | | |
| Perceived Price | PP1: I am highly influenced by the price of green travel products online. | 0.830 | 0.632 | 0.895 | 0.854 |
| | PP2: Prices of green travel products found online are more affordable compared to those offline. | 0.715 | | | |
| | PP3: I usually select green travel products that are cheaper online. | 0.758 | | | |
| | PP4: I think the prices of green travel products found online matches the value. | 0.781 | | | |
| | PP5: I prefer the lower prices of green online travel products | 0.882 | | | |
| Perceived Risk | RISK1: I accept that there is high monetary risks involved when buying green travel products online. | 0.831 | 0.690 | 0.898 | 0.856 |
| | RISK2: I accept that there is high non-monetary risks involved in buying green travel products online. | 0.913 | | | |
| | RISK3: When buying green travel products online, I am willing to reveal my personal information. | 0.825 | | | |
| | RISK4: When buying green travel products online, I am comfortable to give my credit card details. | 0.744 | | | |
| Subjective Norms | SN1: I am willing to purchase green travel products online if its recommended by my friends. | 0.879 | 0.770 | 0.944 | 0.721 |
| | SN2: I will listen to my parents advise when purchasing green travel products online. | 0.873 | | | |
| | SN3: My social circle thinks that buying green travel products through online is a great idea. | 0.862 | | | |
| | SN4: The opinions of role models I follow would affect my purchase of green travel products. | 0.921 | | | |
| | SN5: It is common for my colleagues to buy green travel products online. | 0.851 | | | |
| Online Review Trust | TRU1: I have high trust levels towards online reviews. | 0.856 | 0.709 | 0.907 | 0.863 |
| | TRU2: Reading online reviews would have influence on my purchase of green travel products online. | 0.902 | | | |
| | TRU3: I believe all the online feedback from existing customers on the green travel products. | 0.849 | | | |
| | TRU4: I think the reviews found online on green travel products are highly reliable. | 0.754 | | | |

Table 4 | Results of Discriminant Validity (HTMT)

| Construct | ATT | INT | PEXP | TRU | PP | RISK | SN |
|---|---|---|---|---|---|---|---|
| Attitude (ATT) | | | | | | | |
| Green Online Purchase Intention (INT) | 0.792 | | | | | | |
| Online Experience (PEXP) | 0.816 | 0.769 | | | | | |
| Online Review Trust (TRU) | 0.627 | 0.594 | 0.595 | | | | |
| Perceived Price (PP) | 0.821 | 0.747 | 0.803 | 0.692 | | | |
| Perceived Risk (RISK) | 0.258 | 0.171 | 0.233 | 0.221 | 0.505 | | |
| Subjective Norms (SN) | 0.757 | 0.655 | 0.709 | 0.585 | 0.714 | 0.314 | |

**Table 5** | Results of Structural Model & Mediation Analysis

|   | Hypothesized Relationships | Path Coefficient | Mean | Standard Deviation | t-value | p-value | Result |
|---|---|---|---|---|---|---|---|
| 1 | ATT-> INT | 0.758 | 0.757 | 0.030 | 25.343 | 0.000 | Significant |
| 2 | PEXP -> ATT | 0.363 | 0.365 | 0.052 | 6.953 | 0.000 | Significant |
| 3 | TRU -> ATT | 0.071 | 0.071 | 0.037 | 1.924 | 0.027 | Significant |
| 4 | PP -> ATT | 0.295 | 0.290 | 0.055 | 5.367 | 0.000 | Significant |
| 5 | RISK -> ATT | -0.053 | -0.049 | 0.030 | 1.766 | 0.039 | Significant |
| 6 | SN -> ATT | 0.261 | 0.261 | 0.049 | 5.324 | 0.000 | Significant |
| 7 | PEXP -> INT | 0.275 | 0.275 | 0.042 | 6.481 | 0.000 | Significant |
| 8 | TRU -> INT | 0.053 | 0.053 | 0.029 | 1.868 | 0.031 | Significant |
| 9 | PP -> INT | 0.225 | 0.218 | 0.043 | 5.280 | 0.000 | Significant |
| 10 | RISK -> INT | -0.043 | -0.038 | 0.025 | 1.735 | 0.042 | Significant |
| 11 | SN-> INT | 0.198 | 0.200 | 0.035 | 5.606 | 0.000 | Significant |
| 12 | RISK -> ATT-> INT | -0.040 | -0.037 | 0.023 | 1.742 | 0.041 | Significant |
| 13 | TRU -> ATT -> INT | 0.054 | 0.054 | 0.028 | 1.930 | 0.027 | Significant |
| 14 | SN -> ATT-> INT | 0.198 | 0.198 | 0.037 | 5.304 | 0.000 | Significant |
| 15 | PP -> ATT -> INT | 0.224 | 0.220 | 0.044 | 5.106 | 0.000 | Significant |
| 16 | PEXP -> ATT -> INT | 0.275 | 0.277 | 0.042 | 6.610 | 0.000 | Significant |

Notes: Attitude (ATT); Green Online Purchase Intention (INT); Online Experience (PEXP); Online Review; Trust (TRU); Perceived Price (PP); Perceived Risk (RISK); Subjective Norms (SN)

The $R^2$ (overall coefficient of determination) is examined to explain the overall variance. Result is reflected in Figure 2, whereby all factors explained 72.4% variance in attitude, and attitude explained 57.5% of GOTP purchase intention. Both values indicate that the proposed model is valid with substantial level of predictive accuracy (Uyanık & Güler, 2013). Based on this study, positive online experiences, affordable deals, influence of family and friends, and trustworthy online reviews would enhance attitudes and intention to purchase GOTP. Consumer attitudes holds the key in shaping their purchase intentions whereby higher level of environmental attitude are more likely to take pro-environmental travel choices. This is proven in this study towards their green online travel purchase intention from the $R^2$ value. This finding is consistent with other studies of Amaro and Duarte (2015); Kumar et al., (2017), and as theorized in TRA.
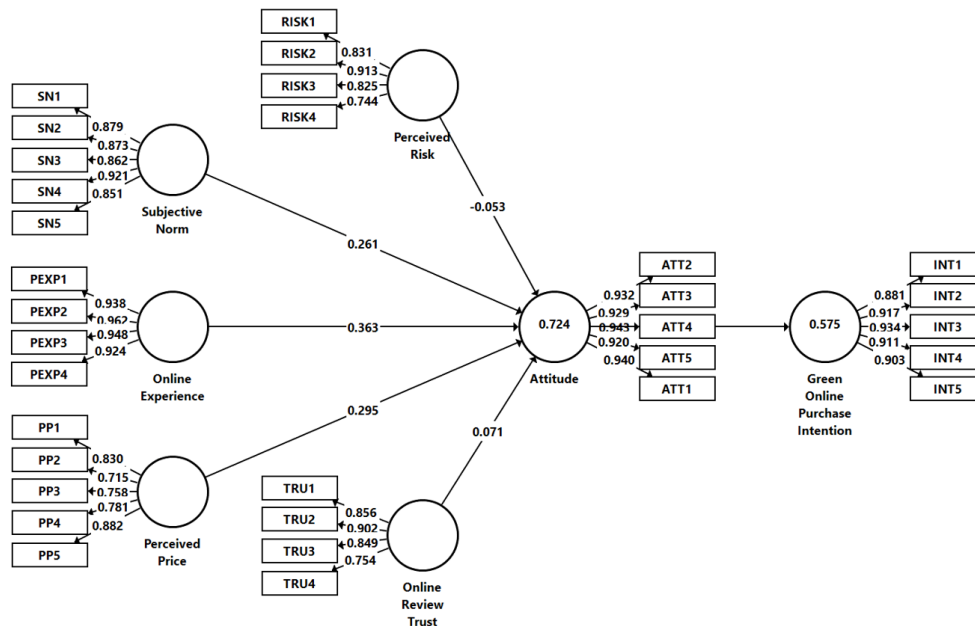


**Figure 2** | Final Structural Model

Based on the result of this study, past online experience of millennial travellers can significantly predict their green attitude. Past researchers have indicated the importance of memorable experience, learning experience and hedonic experience especially in rural and ecotourism context based on reviews analysed from TripAdvisor (Huang & Yi, 2021). Subsequently, travellers should be encouraged to engage through social sharing of their personal travel experiences, as well as improve user generated reviews to enhance trust and authenticity of online reviews. Similar to the result of this study, trust on online reviews is an important factor for millennials and it has significant impact towards attitude and their intention (Fauzi et al., 2018). Potential travellers often search for online travel reviews as part of their planning (Rondán-Cataluña, 2015). Wang and Leung (2019) developed a roadmap to understand millennials' online booking journey which reflected an omnichannel flow between search engines, OTAs, user-generated content sites and social media platforms to plan and book their vacations. Thus, an omnichannel strategy is highly preferred by millennials (Vasiliu, et al. 2016).

In this study, perceived price was found to significantly influence millennials' attitude. In the general context of tourism, price was often specified as a significant role in determining perceived image and customer loyalty (Magalhães et al., 2020). As millennials are considered to be budget conscious, sustainable choices should be affordable. With online price transparency, consumers have better knowledge of dynamic pricing for comparisons. Consumers are able to evaluate the prices by comparing between the tour providers or accommodations through OTA websites like TripAdvisor to get the best deals. Noteworthy, millennials will not forgo experience over price which supports that they would consider paying green products that provide value for money (Gupta & Kim, 2010). Thus, to encourage millennials to spend on green products, OTAs should provide value-added infor-

mation on the benefits compared to conventional travel products (Ogiemwonyi, 2022).

OTAs play a major role in driving more green choices to achieve a sustainable tourism recovery although it is currently not optimized. Agoda, Booking.com and Traveloka websites offer quite similar information including options for flights, hotels, homestays, transfers, car rentals and attraction tickets with on-going promotions, yet limited green policies were found. On the other hand, Airbnb offers options for activities related to nature or culture. For accommodation, travellers could select for stays in a farm, national park or countryside, although there was no other information on green practices for each host. It is proposed that OTAs could display various types of green practices that are implemented. Besides, technologies like metasearch will also offers plenty of room to personalize more green travel options for the travellers. These features can be implemented through data analytics for the green segment. Nevertheless, travel providers must uphold on the actual practices of these sustainable claims. Information offered by OTAs should be transparent to increase their trust and confidence while reducing risk.

## 5. Conclusion

This study provides a tri-fold contribution to the tourism industry. Firstly, it adds to the existing literature and theoretical contributions especially on sustainable tourism during this recovery period especially in understanding the green attitudes and behaviour intention of the millennial segment. Conclusively, online experience, perceived price, subjective norm, online review trust and perceived risk influences millennial travellers' attitude and purchase intention of GOTP. It is confirmed that perceived risk has a significant but negative influence while all other factors were positively related. These findings not only support the exis-

ting TRA model but also revitalizes the model by considering the influence of other variables in the online context such as the online experience, online review trust and perceived risk. Secondly, in terms of the practical implications, it gave vital insights to local agencies and tourism practitioners such as hoteliers, homestay owners and tour on the importance of technology. By focusing on these factors, OTAs have an opportunity to not only directly support the recovery of the tourism industry post covid-19, but also to build a better, more sustainable and resilient tourism industry. Thirdly, the findings contribute key inputs to the forthcoming government policies such as Tourism Malaysia Strategic Plan and National Ecotourism Plan as tourism is an important sector not just for Malaysia but also in many developing countries. According to Department of Statistics Malaysia (2020), it generated RM199 billion revenues and contributed 14.1 per cent to the country's Gross Domestic Product (GDP). Additionally, the tourism industry employed 23.1 percent of total employed persons (Department of Statistics Malaysia, 2020). The tourism boon during the recovery saw new challenges including major environmental impact that result in waste generation as well as noise and air pollution, thus the constant pressure to strive for sustainable tourism development. Promoting pro-environmental attitudes and behaviours both offline and online are the catalyst in mitigating the negative impacts and managing destinations sustainably. From this study, we could relate the importance of OTAs in a rapidly diversified tourism market, as OTAs will continue to be at the centre of this distribution system. The shift towards technology in the crisis recovery phase supports partnerships between governments, OTAs and tourism practitioners. Despite the relevant findings from this study, there remains a number of limitations. As this study only focuses on millennial, it could be suggested that the findings are only applicable to one specific segment. Moreover, attitude could only explain their GOTP purchase intention parti-

ally based on the results despite having a substantial level of predictive accuracy.

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