**RESEARCH ARTICLE** 



# The influence of green finance availability to retailers on purchase intention: a consumer perspective with the moderating role of consciousness

Xiao Gu<sup>1</sup> · Saba Fazal Firdousi<sup>2</sup> · Bojan Obrenovic<sup>3</sup> · Ayesha Afzal<sup>2</sup> · Beenish Amir<sup>2</sup> · Tong Wu<sup>4</sup>

Received: 23 January 2023 / Accepted: 27 April 2023 / Published online: 10 May 2023 © The Author(s), under exclusive licence to Springer-Verlag GmbH Germany, part of Springer Nature 2023

# Abstract

As the global warming crisis is increasing daily, it is crucial to find ways to reduce the carbon footprint generated by activities like the production, consumption, and distribution of goods and services. This empirical study has looked at one approach through which environment-friendly production and consumption can be encouraged. The developed model has studied the relationship between retailers' access to green finance and consumer purchase intention of green products by incorporating the role of environmental, status, and future consciousness. Theoretical foundations for this model have been taken from the theory of planned behaviour (TPB) and theory of reasoned action (TRA), which have extensively discussed the role of consciousness and societal norms while making purchase intentions. To gain insights about the purchasing behaviour of consumers, this study collected data from the Jiangsu province of China, where a non-probability convenience sampling technique was used to distribute a questionnaire to 400 respondents between February 2022 and August 2022. The collected data was analysed using Structural Equation Modeling (SEM) in SmartPLS in order to study the relationship between independent and dependent variables. Results of this study show that retailers' access to green finance positively impacts consumer purchase intention towards green products, and adding a consciousness perspective in the model strengthens this relationship. Moreover, the theory of planned behaviour and the theory of reasoned action were validated through this study, providing insights for policymakers on the importance of promoting green finance to influence green product purchase intention. Overall, this study shows that policymakers should give green financing to retailers and environmental and future awareness to consumers to encourage environment-friendly behaviour.

**Keywords** Access to green finance  $\cdot$  Consumer purchase intention  $\cdot$  Environmental consciousness  $\cdot$  Future consciousness  $\cdot$  Status consciousness  $\cdot$  Structural equation modelling

Responsible Editor: Nicholas Apergis

Saba Fazal Firdousi sabafazalfirdousi@gmail.com; drsaba@lahoreschool.edu.pk

Xiao Gu guxiao0705@163.com

Bojan Obrenovic bojan@inovatus-usluge.hr

Ayesha Afzal ayeshaa@lahoreschool.edu.pk

Beenish Amir beenisha@lahoreschool.edu.pk

# Introduction

Global warming and its detrimental effects on the environment have forced policymakers to encourage the adoption of sustainable technologies and practices by industry,

Tong Wu wutong850711@163.com

- <sup>1</sup> Social Science Department, Communication University of Zhejiang, Hangzhou 310018, Zhejiang, China
- <sup>2</sup> Lahore School of Economics, Lahore, Pakistan
- <sup>3</sup> Zagreb School of Economics and Management, 10000 Zagreb, Croatia
- <sup>4</sup> Hangzhou Linping District People's Court, Hangzhou, China

manufacturers, and retailers, which led to green financing and green marketing practices to encourage customers to consume green products (Chandio et al. 2021; Khairunnessa et al. 2021; Gu et al. 2023a). Furthermore, as continuous advancements occur in technology and innovation (Li et al. 2023; Chen et al. 2023), urbanisation and development (Guo and Zhong 2022; Liu et al. 2022a, 2022b), and the economy (Hu et al. 2022), the need to integrate green finance into multiple areas becomes pertinent to alleviate their environmental impact. Green finance practices play a crucial role in transforming the energy consumption structure (Gu et al. 2023b), and it influences renewable energy development (Shang et al. 2023). After UN sustainable development goals were introduced, most developed economies have incorporated green manufacturing practices. However, for emerging countries, sustainable production, consumption, and green finance are relatively new (Wang et al. 2019; Khisa and Onyuka 2018). As a result, green financing is becoming common in emerging countries (Khairunnessa et al. 2021). However, the critical thing to focus on is whether green financing availability to retailers translates into green purchasing on the part of consumers or not. Green financing is a well-rounded concept possible through green banking practices (lending green loans, reducing paper wastage, reduced interest on green activities) undertaken by financial institutions worldwide (Du et al. 2022).

Previous literature has focused on the relationship between the ecological benefits of green products and consumer purchase intention, yielding mixed results. Some studies have shown positive relationships (Li et al. 2021), while others have shown negative or insignificant relationships (Hair Jr et al. 2021) between the two variables. The variance in findings can be due to differences in green products, consumption values or cultural values. In the current study, we grounded a deeper evaluation of the relationship between the availability of green financing to retailers to produce green products and the likelihood of consumer purchase intention. Moreover, the study has also examined the underexplored moderating role of environmental, status, and future consciousness in the relationship between retailers' access to green finance and consumer purchase intention.

As mentioned above, prior studies have shown an inconclusive effect of environmental consciousness on consumer purchase intention of green products (Mao and Lyu 2017; Riva et al. 2022). By adding environmental consciousness as a moderating variable in the relationship between retailers' access to green finance and consumer purchase intention, this study intends to establish a conclusive relationship. Furthermore, status consciousness and future consciousness are also included in the model because they are two essential components which can affect consumer purchase intention of green products.

An in-depth evaluation can extend theories of green financing, and this can help financial institutions and

retailers attain their sustainability objectives. According to researchers, green financing has become a prevalent concept; it is important because investors want more environmentally friendly production and sale of goods (Dirk and Nett 2022). They want to avoid associating themselves with carbonproducing industries. If green financing is encouraged, it can result in more focus on eco-friendly technology, which will create a competitive advantage for businesses (Saleem et al. 2022). Furthermore, green financing availability can help firms provide green products to customers (Yong et al. 2021). Studies suggest that initiatives undertaken by policymakers related to green financing can be successful if some economic development is already present in a particular country (Yang et al. 2021). Policymakers can meet their sustainability objectives by making their green financing systems transparent (Debrah et al. 2022). As mentioned above, green financing relies primarily on green banking. Green banking means those practices which are economically, socially, and ecologically beneficial to the environment and climate (Panigrahi et al. 2021). Green financing is a part of green banking; it represents sustainable growth with the objective of environmental protection (Khairunnessa et al. 2021). Furthermore, green finance balances the environment, ecosystem, economic development, and monetary gain (Yong et al. 2021).

It is also considered an essential monetary tool of the central bank for sustainable growth. Green financing can be invested in waste management projects, tourism, renewable energy resources, and loans for producing or selling green products (Li et al. 2022b). Access to green finance by a retailer can translate into green marketing, which can be used to create awareness among consumers about green products (Gustavo Jr et al. 2021). Green marketing is responsible for promoting, pricing, advertising, and labelling a product (Sharma 2021). If sufficient funds are unavailable to the retailers to market green products, it might be challenging to influence consumer purchase intention (Joshi et al. 2021). The US-based retailer Walmart was the first to set a target of reduced energy consumption by 2025 under the Paris agreement of 2015. They adopted new technologies for their existing stores, creating new efficient stores. These techniques can drive consumer purchase intention towards the consumption of green products (Bisovi and Das 2021).

In this paper, we have used the theory of reasoned action (Ajzen 2020) and the theory of planned behaviour (Ajzen 1991) to study the effect of green finance availability to retailers on consumers' purchase intention. For this purpose, we have incorporated a consumer consciousness viewpoint which can act as a moderating variable. The reason for including the consciousness standpoint is twofold. Firstly, the consciousness viewpoint (environmental consciousness, status consciousness, and future consciousness) might directly influence consumer purchase intention. Secondly, the consciousness outlook strengthens the relationship between retailer green financing availability and consumer purchase intention. Environmental, status, and future consciousness can differ across individuals, cultures, and societies. For this research, we surveyed 400 consumers in Jiangsu Province of China between February 2022 and August 2022 to assess differences in the consciousness perception of an emerging economy (Qu et al. 2019). The reason for selecting Jiangsu province was because it is a metropolitan city which implies that consumer decisions might be driven by various degrees of environmental, status, and future consciousness.

This study has three key contributions; firstly, developing countries are under-explored concerning the relationship between retailer green financing availability and consumer purchase intention. Secondly, the role of future consciousness as a moderating variable has yet to be explored in previous literature. Furthermore, the study of green behaviour, be it green financing or green purchasing, is essential in the contemporary world due to the need for sustainable production and consumption. Lastly, this study will add to the existing theory of planned behaviour by introducing additional variables which can affect consumer purchase intention.

The structure of the paper is as follows: the "Literature review and hypothesis development" section discusses the literature review of the study, which includes theoretical background as well as previous research available on the proposed model. The "Methodology" section contains the methodology, sampling technique, and variable discussion. The "Results" section discusses the study's findings, and lastly, the "Discussion" section has policy implications and limitations of the study.

# Literature review and hypothesis development

## **Theoretical background**

Researchers have adopted various theoretical models to explain consumer attitudes towards environmentally sustainable products. Widely used theoretical models include the theory of reasoned action (TRA) and the theory of planned behaviour (TPB). TRA states that the foundation of individual behaviour depends on attitude and societal norms (Ajzen 2020). TPB adds to the literature by incorporating perceived behaviour control to determine individual behaviour (Ajzen 1991). TPB further discusses the effect of social pressures and the desire for environment-friendly products on the intended behaviour of an individual. The TPB has been widely used to explain different behaviors such as career choice (Bakar, et al. 2021), knowledge sharing (Obrenovic et al. 2021), and many other behaviors. In addition, researchers have used the theory of planned behaviour to examine the relationship between consumer attitude towards environmentally sustainable products and their actual purchase intention. For example, Taufique and Vaithianathan (2018) used it to investigate the effect of attitudes, social norms, and perceived behaviour on environmentally conscious youth in India.

Their research highlighted that social norms did not affect the attitude of youth towards the environment. In a similar study in Taiwan, TPB was used to understand the effect of perceived moral obligation and environmental consciousness on the likelihood of visiting hotels which follow environmentally friendly practices. The research (Kumar 2021) on Indian students studying in top business schools in the country showed that perceived behaviour control affected the likelihood of purchasing environmentally sustainable products. An in-depth analysis was conducted by Scalco et al. (2017) to study the usefulness of the theory, as mentioned earlier. Results showed that individual attention indeed affected consumer purchase intention.

# Retailer's access to green finance and consumer purchase intention

Retailers' access to green finance means that retailer has enough funds available to take the necessary steps to produce, sell, and promote green products (Zhang et al. 2021). To undertake green marketing or distribution of green products, it is vital that financing is available for retailers. A study by (Górska-Warsewicz et al. 2021) in Poland saw that the organic food sector was not growing because of limited financial availability to the retailers and producers. This study indicates that retailing and distribution activities are affected if green finance is unavailable. Furthermore, a study by Alamsyah et al. (2020) looked at the effect of green marketing strategies done by green energy brands and saw that consumer purchase intention is positively related to the type of marketing strategy. Therefore, retailers' marketing strategy influences consumer purchase intention (Pappas 2016), and a lot of research has focused on green marketing and its influence on consumer purchase intention (Amallia et al. 2021; Machová et al. 2022; Mogaji et al. 2022), but the relationship between the availability of green financing to retailers and consumer purchase intention is relatively under-explored if sufficient funding is available to retailers then they can practice green marketing techniques, the theory of planned behaviour supports this idea and suggests that external factors can influence behaviours regardless of original intention (Yuriev et al. 2020). Therefore, our proposed hypothesis is as follows:

H1: Retailers' access to green finance is positively and significantly associated with consumer purchase intention.

# Environmental consciousness and consumer purchase intention

Environmental consciousness indicates that individuals are aware of their decisions' environmental impacts and actively want to protect the environment (Arslan et al. 2022). It is different from just being aware of the ecosystem because awareness about the ecosystem might translate into something other than protecting the environment (Handoyo et al. 2021). Contradictory research is available in the literature regarding the effect of environmental consciousness on consumers' purchase intention. Environmental consciousness might not directly affect purchase intention, but environmental concern might influence situation-specific cognition (Choi and Johnson 2019). It indicates that even if consumers are aware of the environmental damage caused by their actions, whether they will take any action to protect the environment will depend on the support they will get; moreover, it also depends on how much control they have over their actions. These things will significantly influence the consumers' purchase intentions, as is explained by the theory of planned behaviour, which studies how the attitudes of consumers and perceived social norms affect purchase intentions. Especially in the purchase of environment-friendly goods, environmental concern is an essential component of the extended theory of planned behaviour. Furthermore, it suggests that people will strongly intend to perform an action they think other people will support or agree with (Si et al. 2020).

Based on prior literature, the study proposes that environmental consciousness can moderate the relationship between retailers' access to green financing and consumer purchase intention. The discussion above implies that consumers more conscious of the environment are more likely to opt for green products while shopping. Furthermore, these consumers will not hesitate to pay for alternatives to single-use plastic bags because they believe in protecting the environment. Additionally, the moderating effect of environmental consciousness takes its foundations from the theory of locus of control, which suggests that individuals have two types of perception about their ability to control. One is the external locus of power, and the other is the internal locus of control; people with a high external locus of control believe that their actions do not contribute to any significant event, while those individuals who have a high internal locus of control believe that their efforts can have significant consequences (Toti et al. 2021). Chinese consumers have a higher external locus of control as they feel that environmental changes are not the result of individual decisions but of authorities or policymakers (Thompson et al. 2020). It is a part of the culture of China in which Chinese people do not take responsibility for reducing environmental pollution and expect more powerful people, such as politicians or governments,

to make waste management policies and reduce plastic bags (Dendler and Dewick 2016). Based on the above discussion, the proposed hypothesis will be:

H2. Environmental consciousness is positively and significantly associated with consumer purchase intention. H2a: Environmental consciousness significantly moderates the relationship between retailers' access to green finance and consumer purchase intention.

# Status consciousness and consumer purchase intention

Anderson et al. (2015) define status as "the respect, admiration, and voluntary deference an individual is afforded by others, based on that individual's perceived instrumental social value." It means an individual can gain status by demonstrating talent, knowledge, or achievement. Status can give an individual happiness, authority, and financial success (Kapferer and Valette-Florence 2019). Existing literature on consumer attitude has shown that status consciousness can influence the purchase intention of consumers (Oi and Ploeger 2019). Those who want to elevate their social status will likely purchase items showing off their wealth (Rodríguez-Meirinhos et al. 2020). Furthermore, social status, in particular, has been defined as presenting oneself to gain recognition and appreciation from others (Djafarova and Trofimenko 2019). Prior literature has mixed views regarding the effect of status consciousness and pro-environmental behaviour.

A study (Bocken and Short 2021) saw that individuals tend to over-consume resources to gain social appreciation and enhancement, which harms the environment. Looking at the relationship between self-image and purchase intention of organic food, it was found that the purchase of organic food is associated with a high self-image due to its sustainable properties, which is why people want to buy it (Pang et al. 2021). In China, social status and image are essential to society (Du et al. 2022). It is believed that public favour can be achieved by satisfying society overall; this is in line with the theory of reasoned action, which suggests that people are motivated to perform behaviour which will improve personal gain, and perceived behavioural control also plays a role here as explained by the theory of planned behaviour because it assesses how much control consumers have on their actions and how much of it is influenced by external factors (Palm et al. 2020). Regarding the current study, Wee et al. (2021) observed that purchasing environmentally friendly products can be seen as noble, indicating to society that the individual is displaying pro-social and pro-environmental behaviour and will help the individual in improving their social status.

On the other hand, green products are assumed to be costlier; therefore, usage of such products is associated with

high social status (Sadiq et al. 2021). With the discussion as mentioned earlier, a theory was introduced (Jiménez-Barreto et al. 2022) called self-presentation theory which talks about how individuals change their behaviours to please other people because they are concerned about how others view them. Empirical research has also shown that status elevation strongly motivates purchasing environment-friendly products (Zeeshan et al. 2021). Using the theoretical foundation of self-presentation theory, this study proposes the following hypothesis:

H3: Status consciousness is positively and significantly associated with consumer purchase intention.

H3a: Status consciousness significantly moderates the relationship between retailers' access to green finance and consumer purchase intention.

# Future consciousness and consumer purchase intention

Future consciousness can be defined as "the human capacity to understand, anticipate, prepare for, and embrace the future" (Ahvenharju et al. 2021). Future consciousness has a five-dimensional scale which measures time perception, belief in the agency, openness to accept alternatives, perception of systems, and concern about others (Lalot et al. 2021). Time perception means how much thought an individual has put into their future (Lasota and Mróz, 2021). Belief in an agency means to what extent individuals believe in their capacity to affect and change their surroundings (Hickman et al. 2021). Openness to accept alternatives means accepting that the future can have more than one possibility (Pinto et al. 2018); with concern to the current study, it can mean that current consumption patterns can evolve in the future if proper actions are taken today. Perception about the system means realising how interconnected humans are to nature (Araújo et al. 2019), specifically, how human behaviour affects environment. For example, if humans practise excessive deforestation for urbanisation, it can harm the ecological system (Zhai et al. 2020). Finally, concern for others means believing that humans are interconnected and caring for each other and future generations (Kulha et al. 2021).

These dimensions can be applied in the case of consumers; those consumers who are conscious about the future will want to adopt consumption patterns which protect the future. Moreover, this discussion has its grounds in the theory of planned behaviour which focuses on perceived control which means that if people believe that their current decisions can influence the future, they might be more conscious about their purchase intention (Sharma et al. 2020). Therefore, it can be said that future consciousness is a variable extracted from theory because concern for the future reflects attitude regarding what will happen tomorrow, which is again a vital component of the theory of planned behaviour. This viewpoint implies that a future-conscious consumer will focus on sustainable consumption, which will have a longlasting impact on the environment, society, and quality of life. Consumers who consume sustainably have a holistic outlook (Lubowiecki-Vikuk et al. 2021). In China, mainly, Qi and Ploeger (2021) saw that after COVID-19, consumers are moving towards green products. Based on the discussion mentioned above, this study proposes the following hypothesis:

H4: Future consciousness is positively and significantly associated with consumer purchase intention.

H4a: Future consciousness significantly moderates the relationship between retailers' access to green finance and consumer purchase intention.

# Methodology

In the model developed in the current study, Chinese participants were selected as the research subject. The results collected from these participants were used for investigating the relationship between retailer green financing and consumer purchase intention of green products, with environmental, future, and status consciousness acting as moderating variables. A model is created based on the hypothesis presented above, as shown in Fig. 1.

Based on approved scales, a preliminary questionnaire was designed. We added a few measures before preparing the final questionnaire. For the current study, 25 volunteers were randomly selected from China for the pilot survey, and based on their recommendations, changes were made, and a final questionnaire was drafted.

#### Sample and data collection

As the focus of the study is consumer purchase intention for green products, we randomly selected customers who had prior knowledge about eco-friendly products. Nonprobability convenience sampling techniques were used to determine respondents from Jiangsu province in China. The sample size was selected by taking inspiration from (Hiebl 2023) using the formula Z2 \* p(1 - p)/e2, where z = 1.6384, p = 0.25, and  $e^2 = 0.0016$ . Six hundred consumers were approached through email, of which 400 responded, and their consent was taken. Then, we shared a Google form link with them through which they could fill out the survey. For more accuracy, Eqxiu.com was used for data collection as it works well with WeChat, a popular mobile application in China; this site has also been used for survey analysis by previous studies (Hartescu and Morgan 2019; Zhang et al. 2020a). Interviews were not conducted for the study; data

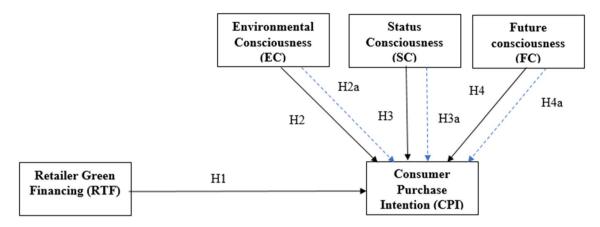


Fig. 1 Conceptual model

collection was completed between February and August 2022. The study used Hair Jr et al. (2021) and Cohen's theory to assess sample size adequacy. In addition,  $g^*$  power post hoc test was used for exogenous factors to test the statistical strength of the sample. The analysis revealed that the strength exceeded the minimum threshold of 0.8. The questionnaire was translated into Chinese and English for the ease of the customers. We also assured them of the confidentiality of our responses.

# Variable construction

For variable construction, we selected two consumer purchase intention (CPI) measures similar to Petruzzellis and Winer (2023). The questionnaire asked respondents about the extent to which they were likely to buy green products in the next 12 months; a 5-point rating scale was used to measure the responses. Next, we used measures from Zheng et al. (2021) for our independent variable of retailer green financing. Sample questions include "There seems to be an increase in investment on waste management and green brick manufacturing by the retailer" and "There seems to be an increase in the amount invested in green industry development by the retailer". Next, we followed De Silva et al. (2021) to pick items to measure environmental consciousness. Again, a 5-point Likert scale was used to collect data from respondents. Respondents were asked to rate the statements according to the scale; these statements were like "environment is the biggest issue facing society today" or "A substantial amount of money should be devoted to environmental protection".

Measures for status consciousness were taken similar to Eastman and Iyer (2021) and Goldring and Azab (2021). Three measures were selected for the abovementioned purpose; respondents were asked about their willingness to purchase products which were associated with high social status. A scale designed by Ahvenharju et al. (2021) was used to measure future consciousness in customers; sample questions include "do you think about the future?" and "do you think your actions affect the environment?". The information related to queries and variable construction are summarised in Table 1.

#### **Common method bias**

Common method bias can occur when respondents are asked to explain their impressions and perceptions about one thing. To avoid such a bias, we have used established scales in our questionnaire (Ciampi et al. 2021). In addition, we have used a one-factor test like previous studies (Baumgartner and Weijters 2021; Kock et al. 2021) to check for common method bias. Common method bias is present if one variable explains more than half of the variance of the model (Chang et al. 2020). Therefore, all factors have been combined to form one factor, which explains 25.82% of the variance, which shows that CMB does not exist.

#### **Descriptive statistics**

Based on the surveyed respondents' demographic data summarised in Table 2, most respondents were between 25 and 40 years old (55%). Moreover, we noticed that more women (54%) filled out the survey compared to men (46%), and out of all respondents, most of them had completed their undergraduate education (47%). Most consumers who were employed in the private sector (59%) completed the survey, followed by students (22%). Most respondents belong to the urban (86%) region because Jiangsu province of China has more urban population than other provinces. Furthermore, most of the respondents were unmarried (72%). It was observed that out of 400 respondents, 41% earned between 70,001 and 100,000. Finally, respondents were asked if they

#### Table 1 Constructs, items, and Cronbach's alpha

Constructs	Questions	Cronbach's alpha (CA)
Consumer purchase intention (CPI)		0.849
CPI 1	What is the likelihood of buying green products over the next 12 months?	
CPI 2	To what extent are you interested in buying green products over the next 12 months?	
Environmental consciousness (EC)		0.919
EC1	Should measures be taken globally to deal with the problem of environmental degradation?	
EC2	Are environmental issues one of society's most significant issues today?	
EC3	Should environmental issues be given priority? Otherwise, future generations will face dire consequences	
EC4	Should a significant amount of funds be spent on protecting the environment?	
Future consciousness (FC)		0.820
FC1	Have you ever thought about the future?	
FC2	Do you think that your actions play a role in affecting the environment?	
FC3	Do you believe that if you alter your consumption patterns, it will affect society?	
FC4	When you make a purchase, do you think about how it will affect future generations?	
Retailer-green finance		0.905
RTF1	Has the amount invested in eco-friendly products by retailers increased?	
RTF2	Do you think retailers are investing in resources such as recycled and recyclable products?	
RTF3	Do you think retailers are investing in waste management and green brick manufacturing?	
RTF4	Are retailers investing more in energy efficiency projects?	
RTF5	Are retailers investing more in green industry development?	
RTF6	Are retailers investing more in green marketing?	
Status consciousness (SC)		0.893
SC1	Would you buy something only because it is associated with high social status?	
SC2	Would you spend a substantial amount of money on a product linked with high social status?	
SC3	Would you enjoy buying new products because they are linked to high social status?	

were familiar with Jinshan-Yinshan sustainable policies (Li et al. 2022a) introduced by the government; then, most of the respondents responded yes (68%).

# Results

## Analysis technique

We used structural equation modelling (SEM) techniques to test the proposed hypothesis. SEM should be applied for samples above 200 (Fernandes 2020). It is a commonly used technique that employs statistics and mathematics to study relationships between variables (Dirk and Nett 2022). The study has used SmartPLS v3 to conduct partial least squarestructural equation modelling (PLS-SEM), which is recognised for conducting exploratory studies because it clearly defines the effect of moderating and mediating variables (Dash and Paul 2021). Recently, more and more studies have started to employ these techniques in their research because it is better than CB-SEM. Smart-PLS users do not need a technical background to use it compared with other types of software; it is powerful because it can accurately predict relations between variables, provide explanations, and build theories (Mohd Thas Thaker et al. 2021).

#### Model measurement

Testing the reliability and validity of the measures used for the model is essential. Before proceeding with the structural equation modelling, we conducted a confirmatory factor analysis to see whether the variables fit well. The study only considered those items which had factor loadings greater than 0.7. Items with less than 0.7-factor loadings were eliminated. We have looked at construct and composite reliability, which measure the accuracy with which each item on a questionnaire measures the same underlying construct (Dash and Paul 2021). These values are shown in Table 3, and all the values are higher than the baseline of 0.7 (Hair Jr et al. 2020). We have used average variance extracted values to study convergent validity; it is a test to check whether all items in a survey are measuring the same thing as the average variance extracted values (AVE) greater than 0.5 prove convergent validity (Nasution et al. 2020). Therefore, all the values in our table are acceptable.

 Table 2
 Descriptive statistics

Measures	Number (total=400)	Percentage
Age		
<25 years old	97	24%
25-40 years old	218	55%
>40 years old	85	21%
Gende		
Male	183	46%
Female	217	54%
Education		
Below undergraduate	65	16%
Undergraduate	188	47%
Graduate	147	37%
Occupation		
Private sector	235	59%
Public sector	41	10%
Self-employed	37	9%
Working student	87	22%
Region		
Rural	55	14%
Urban	345	86%
Marital status		
Married	112	28%
Unmarried	288	72%
Personal annual income (RMB	)	
40,000 or below	69	17%
40,001-70,000	73	18%
70,001-100,000	165	41%
100,001-250,000	68	17%
250,000 and above	25	6%
Nationality		
Local Chinese	287	72%
Foreigner	113	28%
Awareness about Jinshan Yinsh	an sustainable policies	
Yes	270	68%
No	130	33%

We have used the variance inflation factor to study multicollinearity between our measures. Multicollinearity can occur when two independent variables explain each other (Lindner et al. 2020). To avoid it, variance inflation factor is used (Tamura et al. 2019); a variance inflation factor of less than 5 (Joseph F Hair et al. 2019) or even less than 10 implies no multicollinearity. These values in our table show that our item selection does not suffer from multicollinearity.

# Test for validity and reliability

We have used the popularly used Fornell-Larcker criterion method to check for discriminant validity. The study has also

used the Heterotrait-Monotrait ratio (HTMT). Previous studies have also used these criteria to check for validity (Henseler et al. 2016; Yong et al. 2021). Rönkkö and Cho (2022) have defined discriminant validity-Fornell-Lacker criterion as the square root of the average variance extracted. According to Henseler et al. (2016), values for HTMT should be less than 0.85. Discriminant validity is used to see whether items in a survey are all measuring the same thing or if each item measures different information. Tables 4 and 5 show values for discriminant validity, the highest value for HTMT is 0.369, which is well below the threshold value.

#### Structural model

The model has been estimated using Smart PLSv3 and the PLS algorithm approach (Panigrahi et al. 2021). A standardised root means square residual value of 0.08 tests the model's fit (Henseler et al. 2016). Figure 3 shows the  $R^2$  value of the model, which is around 18.7%. R square value predicts a model's overall fitness to explain variation. Previous literature shows that a value greater than 10 is acceptable (Cui et al. 2022; Yong et al. 2021). Table 6 summarises the results of our model. Retailer green financing has a significant positive effect on consumer purchase intention, which supports H1, which means this hypothesis will be accepted. Environmental consciousness has a significant positive impact on consumer purchase intention, which supports H2; this means that the stated hypothesis will be accepted. Furthermore, both status consciousness and future consciousness have a significant positive impact on consumer purchase intention of green products, which supports H3 and H4; therefore, both hypotheses will be accepted (Fig. 2).

## **Measurement model**

The measurement model is used in structural equation modelling to show the relationship between a latent variable and its indicators (Hwang et al. 2020). Figure 3 shows the results of our measurement model.

## **Moderating effects**

We have observed the direct relationship between retailer green finance availability and consumer purchase intention and found a significant positive effect. Table 7 shows the effect after including environmental, future, and status consciousness as moderating variables.

After examining the results of the interaction between consciousness and retailer green financing, we can see how consciousness can influence the relationship between retailer financing and consumer purchase intention. Moderators are used to seeing how the strength and direction of a relationship between dependent and independent variables evolve

Table 3	Factor loadir	ngs, reliability	, validity,	and multicollinearity

Constructs	Loadings	Cronbach's alpha (CA)	Rho_A	Composite reli- ability (CR)	Average variance extracted (AVE)	Variance inflation factor (VIF)
Consumer purchase intention (CPI)		0.849	0.890	0.929	0.867	
CPI 1	0.913					2.199
CPI 2	0.949					2.199
Environmental consciousness (EC)		0.919	0.946	0.942	0.803	
EC1	0.942					4.422
EC2	0.882					3.129
EC3	0.901					2.966
EC4	0.857					2.519
Future consciousness (FC)		0.820	0.836	0.881	0.649	
FC1	0.815					1.900
FC2	0.816					1.728
FC3	0.849					1.927
FC4	0.739					1.569
Retailer-green finance		0.905	0.925	0.926	0.675	
RTF1	0.757					2.181
RTF2	0.850					2.555
RTF3	0.836					2.615
RTF4	0.823					2.231
RTF5	0.833					2.788
RTF6	0.827					2.222
Status consciousness (SC)		0.893	0.900	0.933	0.824	
SC1	0.924					2.843
SC2	0.899					2.578
SC3	0.900					2.596

after adding another variable. Table 7 shows the interaction results, and **H2a** shows the effect on consumer purchase intention of green products when environmental consciousness interacts with retailer financing to moderate the relationship. The hypothesis is accepted because it is becoming significant at a 5% significance level. The association, as mentioned earlier, is depicted in Fig. 4, which shows that the graph of lower environmental consciousness, which means that

Table 4 Discriminant validity-Fornell-Larcker criterion

	CPI	EC	FC	RTF	SC
CPI	0.931	-	-	-	-
EC	0.233	0.896	-	-	-
FC	0.205	0.149	0.806	-	-
RTF	0.342	0.192	0.062	0.822	-
SC	0.233	0.134	0.072	0.280	0.907

The values in bold indicate square roots of AVE are shown diagonally. Values under the diagonals are correlations. *CPI*, consumer purchase intention; *EC*, environmental consciousness; *FC*, future consciousness; *RTF*, retailer financing; *SC*, status consciousness retailers' availability of green finance influences people with low environmental consciousness.

H3a is accepted because the value for the standardised path is coming out to be significant; it shows that when status consciousness is added in the model as an interacting variable with retailer green financing, the results in Table 7 show that high-status consciousness means increased consumer purchase intention in the presence of retailer's access to green financing. The indicated relationship is shown in

 Table 5
 Discriminant validity-HeteroTrait MonoTrait

	CPI	EC	FC	RTF	SC
СРІ	-	-	-	-	-
EC	0.252	-	-	-	-
FC	0.235	0.159	-	-	-
RTF	0.369	0.202	0.127	-	-
SC	0.264	0.149	0.082	0.299	-

*CPI*, consumer purchase intention; *EC*, environmental consciousness; *FC*, future consciousness; *RTF*, retailer financing; *SC*, status consciousness

Table 6structural modelestimates

Hypothesis	Relationships	Standardised paths (β)	T-statistics	p values	Hypothesis accepted/not accepted
H1	RTF—>CPI	0.309***	7.076	0.000	Accepted
H2	EC—>CPI	0.102*	1.955	0.051	Accepted
H3	SC—>CPI	0.158**	2.943	0.003	Accepted
H4	FC—>CPI	0.164***	3.553	0.000	Accepted

\*\*\* p < 0.01; \*\*p < 0.05; \*p < 0.1. CPI, consumer purchase intention; EC, environmental consciousness; FC, future consciousness; RTF, retailer financing; SC, status consciousness

Fig. 5, in which we can see that the graph of high-status consciousness is higher and steeper compared to lower social consciousness.

**H4a** is accepted as it is significant at a 10% significance level; it shows how future consciousness influences the relationship between retailer green finance and consumer purchase intention. As shown in Table 6, future consciousness positively influences the relationship. Retailers' access to green finance will influence consumers who are more conscious about the future and will be more likely to purchase green products, as shown in Fig. 6.

In addition to studying moderating effects, we have calculated  $F^2$  and  $Q^2$  values to assess our model's predictive power further. *F* square shows that if an independent variable is removed from the model, what is the effect on the *r*-squared value? The value of the *f* square shows the effect size on the model where  $\geq 0.02$  is too tiny,  $\geq 0.15$  is medium, and > 0.35 value of *F* square is considered too

large (Ben-Shachar et al. 2020). Table 8 shows the F square values of our model, which are mostly higher than 0.02, indicating that removing them has a negligible effect on the model. We have computed  $Q^2$  values, used to study the predictive power or relevance of the independent variables in explaining a model as the primary-dependent variable. Previous literature has also used Q square (Zhang et al. 2020b). A value above 0 means the independent variables have been selected correctly (Yasa et al. 2021). Table 8 shows the Q square value, which comes out to be 0.144, which means that our model carries predictive relevance.

# Discussion

The relationship between retailer green financing and consumer purchase intention is positive and highly significant, meaning that if retailers have access to green finance,

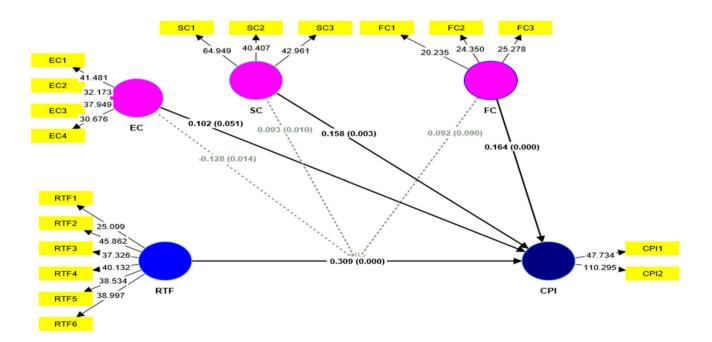


Fig. 2 Structural model. CPI, consumer purchase intention; EC, environmental consciousness; FC, future consciousness; RTF, retailer financing; SC, status consciousness

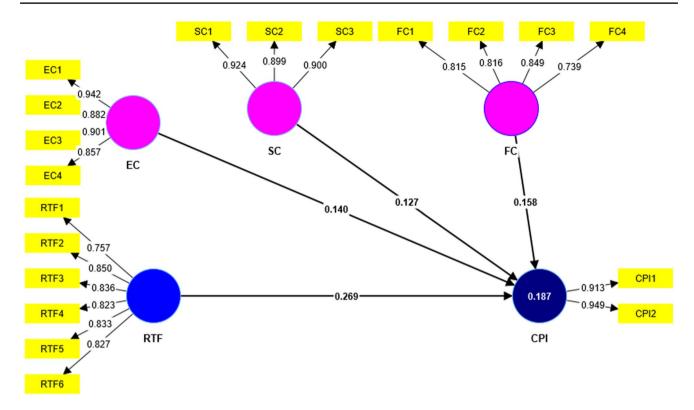


Fig.3 Measurement model. CPI, consumer purchase intention; EC, environmental consciousness; FC, future consciousness; RTF, retailer financing; SC, status consciousness

consumer purchase intention towards green products can be increased. We can also find support for these results in previous literature (Suki et al. 2016; Wang et al. 2022). The relationship between environmental consciousness and consumer purchase intention is positive and significant, meaning that more environmentally conscious consumers will purchase green products than less environmentally conscious consumers. Previous literature has shown similar results (Han et al. 2022; Saut and Saing 2021). We can see in Table 5 that status consciousness has a positive and significant effect on consumer purchase intention towards green products (De Silva et al. 2021; Husain et al. 2022). Results show that future consciousness enormously positively impacts consumer purchase intention towards green products. It implies that consumers concerned about the future will purchase more green products than

Table 7 Mo

those focusing more on current consumption. As future consciousness is a relatively new phenomenon, not much literature is present to support the stated result.

After including consciousness as a moderating variable, we can see how the relationship between retailer financing and consumer purchase intention evolves. When environmental consciousness moderates the relationship between retailer financing and consumer purchase intention, the value of standard path beta becomes negative, implying that retailers' access to green finance does not influence the purchase intention of more environmentally conscious people. Existing literature supports these results (Ahmed et al. 2021). When status consciousness acts as a moderator between a retailer's access to green finance and consumer purchase intention, then the influence of access to green finance on retailers will be higher on the purchase intention of those

oderating effects	Hypothesis	Relationships	Standardised paths $(\beta)$	T-statistics	p values	Hypothesis accepted/not accepted
	H2a	EC×RTF—>CPI	-0.128**	2.448	0.014	Accepted
	H3a	SC×RTF—>CPI	0.093**	2.588	0.010	Accepted
	H4a	FC×RTF—>CPI	0.092*	1.697	0.090	Accepted

\*\*\*p < 0.01; \*\*p < 0.05; \*p < 0.1 CPI, consumer purchase intention; EC, environmental consciousness; FC, future consciousness; RTF, retailer financing; SC, status consciousness

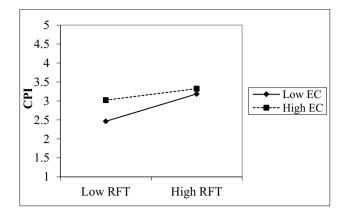
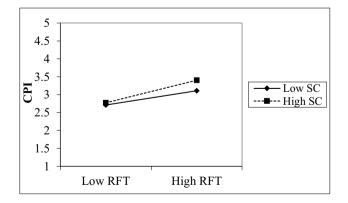


Fig. 4 Moderating effect of environmental consciousness (EC\*RFT and CPI). CPI, consumer purchase intention; EC, environmental consciousness; FC, future consciousness; RTF, retailer financing; SC, status consciousness

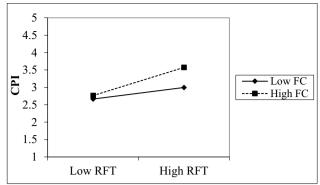
consumers who are more status conscious. We can also find its support in the literature (S. Li and Jaharuddin 2021). We have also looked at the effect of interaction terms of future consciousness and availability of green financing for retailers on consumer purchase intention; results showed that retailers' access to green finance influenced more forwardlooking consumers than individuals less interested in purchasing green products.

#### **Theoretical implications**

The study has made multiple contributions to existing literature. First, it has added to the theory of planned behaviour by incorporating the role of consciousness in determining consumer purchase intention. Existing literature has discussed the role of environmental consciousness and status consciousness (Mutum et al. 2021). However, the study has included the impact of future consciousness (Lalot et al. 2021), which is



**Fig. 5** Moderating effect of status consciousness (SC\*RFT and CPI). CPI, consumer purchase intention; EC, environmental consciousness; FC, future consciousness; RTF, retailer financing; SC, status consciousness



**Fig. 6** Moderating effect of future consciousness (FC\*RFT and CPI). CPI, consumer purchase intention; EC, environmental consciousness; FC, future consciousness; RTF, retailer financing; SC, status consciousness

relatively new. The study results have shown the importance of being conscious about the future because it significantly influences consumer purchase intention towards green products. Previous literature has looked at the effect of green marketing on consumer behaviour. However, we did not find any study on retailers' access to green finance on consumer purchase intention. Moreover, we have looked at the model from a Chinese outlook and did not find any studies on China incorporating these variables to study consumer buying behaviour.

# **Practical implications**

The paper's findings show that if green financing opportunities are promoted to retailers, more and more businesses can opt for greener options such as greener production and greener marketing. It can lead retailers to influence consumer purchase intentions because they will have greener consumption options. Moreover, we have seen that the consciousness outlook is essential when convincing consumers to purchase green products because it is a significant influencer of consumer buying behaviour. Environmental, future, and status consciousness all significantly affect consumer

 Table 8 Q square and F square estimates

	SO	SSE	$Q^2 (= 1 - SSE/SSO)$	$F^2$ estimates
CPI	800.000	684.499	0.144	0.000
EC	1600.000	1600.000		0.023
FC	1600.000	1600.000		0.030
RFT	2400.000	2400.000		0.080
SC	1200.000	1200.000		0.018

*CPI*, consumer purchase intention; *EC*, environmental consciousness; *FC*, future consciousness; *RTF*, retailer financing; *SC*, status consciousness

purchase intention. It shows that high levels of these consciousnesses can be good for the environment.

Policymakers can use the current research to increase environmental awareness among consumers to influence their purchase behaviour. They can do that through educational advertisement campaigns or other environmental protection programmes. Furthermore, policymakers should make laws for commercial banks such that they can provide loans to retailers who want to engage in greener activities. It will also promote environmentally friendly practices.

#### Limitations and future research direction

The current research has a few limitations that future researchers can address. Firstly, we conducted this study in China only, which limits the scope of the study. Future researchers can expand the study by comparing developing and developed countries. Secondly, our survey was based on self-reporting, which can have cognitive bias; future researchers can use other survey techniques to collect data to avoid self-reporting. Thirdly, the study has looked at the moderation role of consciousness, and future researchers can also look at the mediation role in their research.

# Conclusion

In this study, we looked at the effect of retailer green financing on consumer purchase intention in the Chinese context with the moderating role of environment, status, and future consciousness. For the abovementioned purpose, data was gathered from 400 people in the Jiangsu province of China through an online survey. We analysed the collected data through the PL-SEM technique. Our model results showed that retailer green financing has a significant positive impact on consumer purchase intention. Furthermore, we saw that consciousness at the environmental, status, and future levels has a significantly positive effect on consumer intention to purchase green products and a significant moderating role in influencing the relationship between retailer green financing and consumer purchase intention. For this paper, a new view of consciousness was used: individual's thinking about the future and its effect on purchase intention. The results of the study are helpful for policymakers when designing policies which will protect the environment. It implies that if retailers are encouraged to invest in green activities through green financing, then consumers can be convinced to spend on green products.

**Author contribution** XG and SFF: conceptualisation and methodology; XG, SFF, BO, and BA: writing—original draft preparation, software, and formal analysis; AA and TW: reviewing and editing final draft.

**Funding** The research was funded by the National Social Science Foundation of China "The Study of Poetry in the Eastern Zhou Dynasty from the Perspective of Interaction between Classical Interpretation and Philosophical Construction" (grant numbers No.20BZX057), Communication University of Zhejiang "2022 Young Teacher Research Improvement Program Project" (grant numbers No.ZC22XJ028).

**Data availability** Data can be made available upon request to the corresponding author.

#### Declarations

Ethics approval and consent to participate Not applicable.

**Consent for publication** Informed consent was obtained from all subjects involved in the study while collecting the data through survey.

Competing interests The authors declare no competing interests.

# References

- Ahmed N, Li C, Khan A, Qalati SA, Naz S, Rana F (2021) Purchase intention toward organic food among young consumers using theory of planned behavior: role of environmental concerns and environmental awareness. J Environ Plan Manag 64(5):796–822. https://doi.org/10.1080/09640568.2020.1785404
- Ahvenharju S, Lalot F, Minkkinen M, Quiamzade A (2021) Individual futures consciousness: psychology behind the five-dimensional Futures Consciousness scale. Futures 128:102708. https://doi. org/10.1016/j.futures.2021.102708
- Ajzen I (1991) The theory of planned behavior. Organ Behav Human Decis Process 50(2):179–211. https://doi.org/10.1016/0749-5978(91)90020-T
- Ajzen I (2020) The theory of planned behavior: frequently asked questions. Human Behav Emerg Technol 2(4):314–324. https://doi. org/10.1002/hbe2.195
- Alamsyah D, Othman N, Mohammed H (2020) The awareness of environmentally friendly products: the impact of green advertising and green brand image. Manag Sci Lett 10(9):1961–1968. https:// doi.org/10.5267/j.msl.2020.2.017
- Amallia BA, Effendi MI, Ghofar A (2021) The effect of green advertising, trust, and attitude on green purchase intention: an evidence from jogjakarta, indonesia. Int J Creat Bus Manag 1(1):66–79. https://doi.org/10.31098/ijcbm.v1i1.4553
- Anderson C, Hildreth JAD, Howland L (2015) Is the desire for status a fundamental human motive? A review of the empirical literature. Psychol Bull 141(3):574. https://doi.org/10.1037/a0038781
- Araújo D, Brymer E, Brito H, Withagen R, Davids K (2019) The empowering variability of affordances of nature: why do exercisers feel better after performing the same exercise in natural environments than in indoor environments? Psychol Sport Exerc 42:138–145. https://doi.org/10.1016/j.psychsport.2018.12.020
- Arslan Z, Kausar S, Kannaiah D, Shabbir MS, Khan GY, Zamir A (2022) The mediating role of green creativity and the moderating role of green mindfulness in the relationship among clean environment, clean production, and sustainable growth. Environ Sci Pollut Res 29(9):13238–13252. https://doi.org/10.1007/ s11356-021-16383-z
- Bakar NA, Rosbi S, Hashim H, Arshad NC (2021) Factors influencing students intention to choose career of halal food industry in Malaysia using theory of planned behavior. Int J Manag Sci Bus Admin 8(1):50–67

- Baumgartner H, Weijters B (2021) Dealing with common method variance in international marketing research. J Int Mark 29(3):7–22. https://doi.org/10.1177/1069031X21995871
- Ben-Shachar MS, Lüdecke D, Makowski D (2020) effectsize: Estimation of effect size indices and standardised parameters. J Open Source Softw 5(56):2815. https://doi.org/10.21105/joss.02815
- Bisoyi B, Das B (2021) A paradigm shift: nano-sensory nudges stimulating consumer's purchase behaviour for green products driving towards environmental sustainability. Mater Today: Proc. https://doi.org/10.1016/j.matpr.2021.07.407
- Bocken NM, Short SW (2021) Unsustainable business models–recognising and resolving institutionalised social and environmental harm. J Clean Prod 312:127828. https://doi.org/10.1016/j. jclepro.2021.127828
- Chandio AA, Jiang Y, Akram W, Adeel S, Irfan M, Jan I (2021) Addressing the effect of climate change in the framework of financial and technological development on cereal production in Pakistan. J Clean Prod 288:125637. https://doi.org/10. 1016/j.jclepro.2020.125637
- Chang S-J, Van Witteloostuijn A, Eden L (2020) Common method variance in international business research. Res Methods Int Bus 385–398. https://doi.org/10.1007/978-3-030-22113-3\_20
- Chen X, Chen W, Lu K (2023) Does an imbalance in the population gender ratio affect FinTech innovation? Technol Forecast Soc Chang 188:122164. https://doi.org/10.1016/j.techfore.2022. 122164
- Choi D, Johnson KK (2019) Influences of environmental and hedonic motivations on intention to purchase green products: an extension of the theory of planned behavior. Sustain Prod Consum 18:145–155. https://doi.org/10.1016/j.spc.2019.02.001
- Ciampi F, Giannozzi A, Marzi G, Altman EI (2021) Rethinking SME default prediction: a systematic literature review and future perspectives. Scientometrics 126(3):2141–2188. https://doi.org/10.1007/s11192-020-03856-0
- Cui Y, Firdousi SF, Afzal A, Awais M, Akram Z (2022) The influence of big data analytic capabilities building and education on business model innovationhttps://doi.org/10.3389/fpsyg. 2022.999944
- Dash G, Paul J (2021) CB-SEM vs PLS-SEM methods for research in social sciences and technology forecasting. Technol Forecast Soc Chang 173:121092. https://doi.org/10.1016/j.techfore.2021. 121092
- De Silva M, Wang P, Kuah AT (2021) Why wouldn't green appeal drive purchase intention? Moderation effects of consumption values in the UK and China. J Bus Res 122:713–724. https://doi.org/10. 1016/j.jbusres.2020.01.016
- Debrah C, Chan APC, Darko A (2022) Green finance gap in green buildings: a scoping review and future research needs. Build Environ 207:108443. https://doi.org/10.1016/j.buildenv.2021. 108443
- Dendler L, Dewick P (2016) Institutionalising the organic labelling scheme in China: a legitimacy perspective. J Clean Prod 134:239–250. https://doi.org/10.1016/j.jclepro.2016.02.141
- Dirk J, Nett UE (2022) Postscript: uncovering the situational impact in educational settings: studies on motivational and emotional experiences. Learn Instr 101661. https://doi.org/10.1016/j.learn instruc.2022.101661
- Djafarova E, Trofimenko O (2019) 'Instafamous'-credibility and selfpresentation of micro-celebrities on social media. Inf Commun Soc 22(10):1432–1446. https://doi.org/10.1080/1369118X.2018. 1438491
- Du H, Chen A, Li Y, Ma L, Xing Q, Nie Y (2022) Perceived income inequality increases status seeking among low social class individuals. Asian J Soc Psychol 25(1):52–59. https://doi.org/10. 1111/ajsp.12455

- Eastman JK, Iyer R (2021) Understanding the ecologically conscious behaviors of status motivated millennials. J Consum Mark 38(5):565–575. https://doi.org/10.1108/JCM-02-2020-3652
- Fernandes AAR (2020) The influence of quality management on organisation performance: service quality and product characteristics as a medium. Prop Manag 38(3):383–403. https://doi.org/10.1108/PM-10-2019-0060
- Goldring D, Azab C (2021) New rules of social media shopping: personality differences of US Gen Z versus Gen X market mavens. J Consum Behav 20(4):884–897. https://doi.org/10. 1002/cb.1893
- Górska-Warsewicz H, Żakowska-Biemans S, Stangierska D, Świątkowska M, Bobola A, Szlachciuk J, . . . Świstak E (2021) Factors limiting the development of the organic food sector perspective of processors, distributors, and retailers. Agriculture 11(9):882. https://doi.org/10.3390/agriculture11090882
- Gu X, Alamri AM, Ahmad M, Alsagr N, Zhong X, Wu T (2023a) Natural resources extraction and green finance: Dutch disease and COP27 targets for OECD countries. Resour Policy 81:103404
- Gu X, Qin L, Zhang M (2023b) The impact of green finance on the transformation of energy consumption structure: evidence based on China. Front Earth Sci 10:1097346
- Guo Q, Zhong J (2022) The effect of urban innovation performance of smart city construction policies: evaluate by using a multiple period difference-in-differences model. Technol Forecast Soc Chang 184:122003. https://doi.org/10.1016/j.techfore.2022.122003
- Gustavo JU Jr, Trento LR, de Souza M, Pereira GM, de Sousa Jabbour ABL, Ndubisi NO, . . . Zvirtes L (2021) Green marketing in supermarkets: conventional and digitised marketing alternatives to reduce waste. J Clean Prod 296:126531. https://doi.org/10. 1016/j.jclepro.2021.126531
- Hair JF, Risher JJ, Sarstedt M, Ringle CM (2019) When to use and how to report the results of PLS-SEM. Eur Bus Rev 31(1):2–24. https://doi.org/10.1108/EBR-11-2018-0203
- Hair JF Jr, Howard MC, Nitzl C (2020) Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. J Bus Res 109:101–110. https://doi.org/10.1016/j.jbusres.2019. 11.069
- Hair JF Jr, Hult GTM, Ringle CM, Sarstedt M (2021) A primer on partial least squares structural equation modeling (PLS-SEM): Sage publications. https://doi.org/10.1007/978-3-030-80519-7
- Han MS, Hampson DP, Wang Y, Wang H (2022) Consumer confidence and green purchase intention: an application of the stimulusorganism-response model. J Retail Consum Serv 68:103061. https://doi.org/10.1016/j.jretconser.2022.103061
- Handoyo B, Astina I, Mkumbachi R (2021) Students' environmental awareness and pro-environmental behaviour: preliminary study of geography students at State University of Malang. Paper presented at the IOP Conference Series: Earth and Environmental Science. https://doi.org/10.1088/1755-1315/683/1/012049
- Hartescu I, Morgan K (2019) Regular physical activity and insomnia: an international perspective. J Sleep Res 28(2):e12745. https:// doi.org/10.1111/jsr.12745
- Henseler J, Hubona G, Ray PA (2016) Using PLS path modeling in new technology research: updated guidelines. Ind Manag Data Syst. https://doi.org/10.1108/IMDS-09-2015-0382
- Hickman C, Marks E, Pihkala P, Clayton S, Lewandowski RE, Mayall EE, . . . van Susteren L (2021) Climate anxiety in children and young people and their beliefs about government responses to climate change: a global survey. Lancet Planet Health 5(12):e863-e873. https://doi.org/10.1016/S2542-5196(21) 00278-3
- Hiebl MR (2023) Sample selection in systematic literature reviews of management research. Organ Res Methods 26(2):229–261. https://doi.org/10.1177/1094428120986851

- Hu F, Qiu L, Xi X, Zhou H, Hu T, Su N,... Duan Z (2022) Has COVID-19 changed China's digital trade?—implications for health economics. Front Public Health 10. https://doi.org/10.3389/fpubh. 2022.831549
- Husain R, Ahmad A, Khan BM (2022) The impact of brand equity, status consumption, and brand trust on purchase intention of luxury brands. Cogent Bus Manag 9(1):2034234. https://doi. org/10.1080/23311975.2022.2034234
- Hwang H, Sarstedt M, Cheah JH, Ringle CM (2020) A concept analysis of methodological research on composite-based structural equation modeling: bridging PLSPM and GSCA. Behaviormetrika 47:219–241. https://doi.org/10.1007/s41237-019-00085-5
- Jiménez-Barreto J, Loureiro SMC, Rubio N, Romero J (2022) Service brand coolness in the construction of brand loyalty: a self-presentation theory approach. J Retail Consum Serv 65:102876. https://doi.org/10.1016/j.jretconser.2021.102876
- Joshi Y, Uniyal DP, Sangroya D (2021) Investigating consumers' green purchase intention: examining the role of economic value, emotional value and perceived marketplace influence. J Clean Prod 328:129638. https://doi.org/10.1016/j.jclepro.2021.129638
- Kapferer J-N, Valette-Florence P (2019) How self-success drives luxury demand: an integrated model of luxury growth and country comparisons. J Bus Res 102:273–287. https://doi.org/10.1016/j. jbusres.2019.02.002
- Khairunnessa F, Vazquez-Brust DA, Yakovleva N (2021) A review of the recent developments of green banking in Bangladesh. Sustainability 13(4):1904. https://doi.org/10.3390/su13041904
- Khisa K, Onyuka A (2018) Greening Kenya's special economic zones and industrial parks: achieving their competitiveness in the face of resource scarcity and a changing climate regime. Int J Innov Econ Dev 4(4):31–46
- Kock F, Berbekova A, Assaf AG (2021) Understanding and managing the threat of common method bias: detection, prevention and control. Tour Manag 86:104330. https://doi.org/10.1016/j.tourm an.2021.104330
- Kulha K, Leino M, Setälä M, Jäske M, Himmelroos S (2021) For the sake of the future: can democratic deliberation help thinking and caring about future generations? Sustainability 13(10):5487. https://doi.org/10.3390/su13105487
- Kumar GA (2021) Framing a model for green buying behavior of Indian consumers: from the lenses of the theory of planned behavior. J Clean Prod 295:126487. https://doi.org/10.1016/j. jclepro.2021.126487
- Lalot F, Abrams D, Ahvenharju S, Minkkinen M (2021) Being futureconscious during a global crisis: the protective effect of heightened Futures Consciousness in the COVID-19 pandemic. Pers Individ Differ 178:110862. https://doi.org/10.1016/j.paid.2021. 110862
- Lasota A, Mróz J (2021) Positive psychology in times of pandemic time perspective as a moderator of the relationship between resilience and meaning in Lifelife. Int J Environ Res Public Health 18(24):13340. https://doi.org/10.3390/ijerph182413340
- Li S, Jaharuddin NS (2021) Influences of background factors on consumers' purchase intention in China's organic food market: assessing moderating role of word-of-mouth (WOM). Cogent Bus Manag 8(1):1876296. https://doi.org/10.1080/23311975. 2021.1876296
- Li G, Yang L, Zhang B, Li X, Chen F (2021) How do environmental values impact green product purchase intention? The moderating role of green trust. Environ Sci Pollut Res 28:46020–46034. https://doi.org/10.1007/s11356-021-13946-y
- Li C, Firdousi SF, Afzal A (2022a) China's Jinshan Yinshan sustainability evolutionary game equilibrium research under government and enterprises resource constraint dilemma. Environ Sci Pollut Res 29(27):41012–41036. https://doi.org/10.1007/ s11356-022-18786-y

- Li C, Sampene AK, Agyeman FO, Brenya R, Wiredu J (2022b) The role of green finance and energy innovation in neutralising environmental pollution: empirical evidence from the MINT economies. J Environ Manag 317:115500. https://doi.org/10.1016/j. jenvman.2022.115500
- Li X, Wang J, Yang C (2023) Risk prediction in financial management of listed companies based on optimized BP neural network under digital economy. Neural Comput Appl 35(3):2045–2058. https:// doi.org/10.1007/s00521-022-07377-0
- Lindner T, Puck J, Verbeke A (2020) Misconceptions about multicollinearity in international business research: identification, consequences, and remedies, Springer, 51, pp. 283–298. https://doi. org/10.1057/s41267-019-00257-1
- Liu L, Li Z, Fu X, Liu X, LiZ,... Zheng W (2022a) Impact of power on uneven development: evaluating built-up area changes in Chengdu based on NPP-VIIRS images (2015–2019). Land 11(4):1-21https://doi.org/10.3390/land11040489
- Liu X, Tong D, Huang J, Zheng W, Kong M,... Zhou G (2022b) What matters in the e-commerce era? Modelling and mapping shop rents in Guangzhou, China. Land Use Policy 123:106430https:// doi.org/10.1016/j.landusepol.2022.106430
- Lubowiecki-Vikuk A, Dąbrowska A, Machnik A (2021) Responsible consumer and lifestyle: sustainability insights. Sustain Prod Consum 25:91–101. https://doi.org/10.1016/j.spc.2020.08.007
- Machová R, Ambrus R, Zsigmond T, Bakó F (2022) The impact of green marketing on consumer behavior in the market of palm oil products. Sustainability 14(3):1364. https://doi.org/10.3390/ su14031364
- Mao Z, Lyu J (2017) Why travelers use Airbnb again? An integrative approach to understanding travelers' repurchase intention. Int J Contem Hosp Manag. https://doi.org/10.1108/ IJCHM-08-2016-0439
- Mogaji E, Adeola O, Adisa I, Hinson RE, Mukonza C, Kirgiz AC (2022) Green marketing in emerging economies: communication and brand perspective: an introduction Green Marketing in Emerging Economies, Springer, pp. 1–16. https://doi.org/10. 1007/978-3-030-82572-0\_1
- Mohd Thas Thaker H, Khaliq A, Ah Mand A, Iqbal Hussain H, Mohd Thas Thaker MAB, Allah Pitchay AB (2021) Exploring the drivers of social media marketing in Malaysian Islamic banks: an analysis via smart PLS approach. J Islam Mark 12(1):145–165. https://doi.org/10.1108/JIMA-05-2019-0095
- Mutum DS, Ghazali EM, Wei-Pin W (2021) Parallel mediation effect of consumption values and the moderation effect of innovativeness, in predicting the influence of identity on green purchasing behavior. J Consum Behav 20(3):827–844. https://doi.org/10. 1002/cb.1913
- Nasution MI, Fahmi M, Prayogi MA (2020) The quality of small and medium enterprises performance using the structural equation model-part least square (SEM-PLS). Paper presented at the J Phys: Conf Ser. https://doi.org/10.1088/1742-6596/1477/5/ 052052
- Obrenovic B, Du J, Godinić D, Tsoy D (2021) Personality trait of conscientiousness impact on tacit knowledge sharing: the mediating effect of eagerness and subjective norm. J Knowl Manag 26(5):1124–1163
- Palm E, Seubert C, Glaser J (2020) Understanding employee motivation for work-to-nonwork integration behavior: a reasoned action approach. J Bus Psychol 35:683–696. https://doi.org/10.1007/ s10869-019-09648-5
- Pang SM, Tan BC, Lau TC (2021) Antecedents of consumers' purchase intention towards organic food: integration of theory of planned behavior and protection motivation theory. Sustainability 13(9):5218. https://doi.org/10.3390/su13095218
- Panigrahi SK, Azizan NAB, Al Shamsi IR (2021) Product innovation, customer satisfaction, and brand loyalty of using smartphones

among university students: PLS-SEM approach. Indian J Mark 51(1):8-25. https://doi.org/10.17010/ijom/2021/v51/i1/156931

- Pappas N (2016) Marketing strategies, perceived risks, and consumer trust in online buying behaviour. J Retail Consum Serv 29:92– 103. https://doi.org/10.1016/j.jretconser.2015.11.007
- Petruzzellis L, Winer RS (2023) The decision to customise and its effect on brand experience. Psychol Mark 40(3):516–530. https://doi.org/10.1002/mar.21768
- Pinto JR, Cardoso JS, Lourenço A (2018) Evolution, current challenges, and future possibilities in ECG biometrics. IEEE Access 6:34746–34776. https://doi.org/10.1109/ACCESS.2018.2849870
- Qi X, Ploeger A (2019) Explaining consumers' intentions towards purchasing green food in Qingdao, China: the amendment and extension of the theory of planned behavior. Appetite 133:414–422. https://doi.org/10.1016/j.appet.2018.12.004
- Qi X, Ploeger A (2021) Explaining Chinese consumers' green food purchase intentions during the COVID-19 pandemic: an extended Theory of Planned Behaviour. Foods 10(6):1200. https://doi.org/ 10.3390/foods10061200
- Qu S, Guo Y, Ma Z, Chen WQ, Liu J, Liu G, ... Xu M (2019) Implications of China's foreign waste ban on the global circular economy. Resour, Conserv Recycl 144:252–255. https://doi.org/10. 1016/j.resconrec.2019.01.004
- Riva F, Magrizos S, Rubel MRB, Rizomyliotis I (2022) Green consumerism, green perceived value, and restaurant revisit intention: millennials' sustainable consumption with moderating effect of green perceived quality. Bus Strateg Environ 31(7):2807–2819. https://doi.org/10.1002/bse.3048
- Rodríguez-Meirinhos A, Antolín-Suárez L, Brenning K, Vansteenkiste M, Oliva A (2020) A bright and a dark path to adolescents' functioning: the role of need satisfaction and need frustration across gender, age, and socioeconomic status. J Happiness Stud 21(1):95–116. https://doi.org/10.1007/s10902-018-00072-9
- Rönkkö M, Cho E (2022) An updated guideline for assessing discriminant validity. Organ Res Methods 25(1):6–14. https://doi.org/ 10.1177/1094428120968614
- Sadiq M, Bharti K, Adil M, Singh R (2021) Why do consumers buy green apparel? The role of dispositional traits, environmental orientation, environmental knowledge, and monetary incentive. J Retail Consum Serv 62:102643. https://doi.org/10.1016/j.jretc onser.2021.102643
- Saleem H, Khan MB, Mahdavian SM (2022) The role of green growth, green financing, and eco-friendly technology in achieving environmental quality: evidence from selected Asian economies. Environ Sci Pollut Res 29(38):57720–57739. https://doi.org/10. 1007/s11356-022-19799-3
- Saut M, Saing T (2021) Factors affecting consumer purchase intention towards environmentally friendly products: a case of generation Z studying at universities in Phnom Penh. SN Bus Econ 1(6):1– 20. https://doi.org/10.1007/s43546-021-00085-2
- Scalco A, Noventa S, Sartori R, Ceschi A (2017) Predicting organic food consumption: a meta-analytic structural equation model based on the theory of planned behavior. Appetite 112:235–248. https://doi.org/10.1016/j.appet.2017.02.007
- Shang Y, Zhu L, Qian F, Xie Y (2023) Role of green finance in renewable energy development in the tourism sector. Renew Energy 206:890–896. https://doi.org/10.1016/j.renene.2023.02.124
- Sharma AP (2021) Consumers' purchase behaviour and green marketing: a synthesis, review and agenda. Int J Consum Stud 45(6):1217–1238. https://doi.org/10.1111/ijcs.12722
- Sharma N, Saha R, Sreedharan VR, Paul J (2020) Relating the role of green self-concepts and identity on green purchasing behaviour: an empirical analysis. Bus Strateg Environ 29(8):3203–3219. https://doi.org/10.1002/bse.2567
- Shogren KA, Rojahn J (2003) Convergent reliability and validity of the questions about behavioral function and the motivation

assessment scale: a replication study. J Dev Phys Disabil 15(4):367–375. https://doi.org/10.1023/A:1026314316977

- Si H, Shi JG, Tang D, Wu G, Lan J (2020) Understanding intention and behavior toward sustainable usage of bike sharing by extending the theory of planned behavior. Resour, Conserv Recycl 152:104513. https://doi.org/10.1016/j.resconrec.2019.104513
- Suki NM, Suki NM, Azman NS (2016) Impacts of corporate social responsibility on the links between green marketing awareness and consumer purchase intentions. Procedia Econ Finance 37:262–268. https://doi.org/10.1016/S2212-5671(16)30123-X
- Sun CW, Obrenovic B, Li HT (2022) Influence of virtual CSR cocreation on the purchase intention of green products under the heterogeneity of experience value. Sustainability 14(20):13617
- Tamura R, Kobayashi K, Takano Y, Miyashiro R, Nakata K, Matsui T (2019) Mixed integer quadratic optimisation formulations for eliminating multicollinearity based on variance inflation factor. J Global Optim 73(2):431–446. https://doi.org/10.1007/s10898-018-0713-3
- Taufique KMR, Vaithianathan S (2018) A fresh look at understanding Green consumer behavior among young urban Indian consumers through the lens of Theory of Planned Behavior. J Clean Prod 183:46–55. https://doi.org/10.1016/j.jclepro.2018.02.097
- Thompson CL, Kuah AT, Foong R, Ng ES (2020) The development of emotional intelligence, self-efficacy, and locus of control in Master of Business Administration students. Hum Resour Dev Q 31(1):113–131. https://doi.org/10.1002/hrdq.21375
- Toti J-F, Diallo MF, Huaman-Ramirez R (2021) Ethical sensitivity in consumers' decision-making: the mediating and moderating role of internal locus of control. J Bus Res 131:168–182. https://doi.org/10.1016/j.jbusres.2021.03.045
- Wang C, Ghadimi P, Lim MK, Tseng M-L (2019) A literature review of sustainable consumption and production: a comparative analysis in developed and developing economies. J Clean Prod 206:741– 754. https://doi.org/10.1016/j.jclepro.2018.09.172
- Wang YM, Zaman HMF, Alvi AK (2022) Linkage of green brand positioning and green customer value with green purchase intention: the mediating and moderating role of attitude toward green brand and green trust. SAGE Open 12(2):21582440221102440. https:// doi.org/10.1177/21582440221102441
- Wee S-C, Choong W-W, Low S-T (2021) Can "nudging" play a role to promote pro-environmental behaviour? Environ Challenges 5:100364. https://doi.org/10.1016/j.envc.2021.100364
- Yang Y, Su X, Yao S (2021) Nexus between green finance, fintech, and high-quality economic development: empirical evidence from China. Resourc Policy 74:102445. https://doi.org/10.1016/j.resou rpol.2021.102445
- Yasa N, Giantari I, Sukaatmadja I, Sukawati T, Ekawati N, Nurcaya I, . . . Astari A (2021) The role of relational and informational capabilities in mediating the effect of social media adoption on business performance in fashion industry. Int J Data Netw Sci 5(4):569–578. https://doi.org/10.5267/j.ijdns.2021.8.011
- Yong C, Firdousi D, Fazal S, Afzal A, Florjančič V, Awais M (2021) The influence of internal and external stakeholder mechanisms on entrepreneurial success: the moderating role of digital technology adoption. Front Psychol 6627. https://doi.org/10.3389/ fpsyg.2021.821725
- Yuriev A, Dahmen M, Paillé P, Boiral O, Guillaumie L (2020) Proenvironmental behaviors through the lens of the theory of planned behavior: a scoping review. Resour, Conserv Recycl 155:104660. https://doi.org/10.1016/j.resconrec.2019.104660
- Zeeshan M, Sha L, Tomlinson KW, Azeez PA (2021) Factors shaping students' perception of climate change in the western Himalayas, Jammu & Kashmir, India. Curr Res Environ Sustain 3:100035. https://doi.org/10.1016/j.crsust.2021.100035
- Zhai T, Wang J, Fang Y, Qin Y, Huang L, Chen Y (2020) Assessing ecological risks caused by human activities in rapid urbanisation

coastal areas: towards an integrated approach to determining key areas of terrestrial-oceanic ecosystems preservation and restoration. Sci Total Environ 708:135153. https://doi.org/10.1016/j. scitotenv.2019.135153

- Zhang F, Zhang D, Lin M (2020a) The impact of the innovative knowledge of customers on their recommendation intentions. Front Psychol 11:979. https://doi.org/10.3389/fpsyg.2020.00979
- Zhang L, Ruiz-Menjivar J, Luo B, Liang Z, Swisher ME (2020b) Predicting climate change mitigation and adaptation behaviors in agricultural production: a comparison of the theory of planned behavior and the Value-Belief-Norm Theory. J Environ Psychol 68:101408. https://doi.org/10.1016/j.jenvp.2020.101408
- Zhang X, Xiu G, Shahzad F, Duan Y (2021) Optimal financing strategy in a capital-constrained supply chain with retailer green marketing efforts. Sustainability 13(3):1357. https://doi.org/10.3390/ su13031357

Zheng G, Siddik A, Masukujjaman M, Fatema N, Alam S (2021) Green finance development in Bangladesh: the role of private commercial banks (PCBs). Sustainability 2021, 13, 795: s Note: MDPI stays neutral with regard to jurisdictional claims in .... https:// doi.org/10.3390/su13020795

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Springer Nature or its licensor (e.g. a society or other partner) holds exclusive rights to this article under a publishing agreement with the author(s) or other rightsholder(s); author self-archiving of the accepted manuscript version of this article is solely governed by the terms of such publishing agreement and applicable law.