

# The Impact of Green Brand Image on Consumer Purchase Intentions

K. Kishan, Wang Lu, Wei Chien Ng, Quan Kai Ang, Quah Wei Jie Kenny\*

School of Management, Universiti Sains Malaysia 11800 USM Pulau Pinang, Malaysia

\*Corresponding Author Email: kennyquah@usm.my

**DOI Link:** <http://dx.doi.org/10.6007/IJARBSS/v15-i12/27096>

**Published Date:** 17 December 2025

## Abstract

This study aims to identify the impact of green brand image on consumer purchase intentions. In order to investigate the impact of green brand image comprehensively, green brand positioning, consumers' attitude towards green brands, environmental concerns and green marketing on green product purchase intentions are selected and developed as components of green brand image. Additionally, this study explores the moderating effect of green brand knowledge on the relationship between the respective components and consumer purchase intentions. Employing quantitative research methods, multiple regression analysis and moderating effect analysis, data was collected through a questionnaire survey of 266 consumers in China. Findings demonstrated that green brand image positively influences the consumer purchase intentions. Furthermore, it was found that green brand knowledge has a moderating effect on the relationship between green brand image and consumer purchase intentions. The study extends green brand image literature by decomposing it into positioning, attitudes, concerns, and marketing, and identifies green brand knowledge as a moderator shaping purchase intentions. For real-world practices, the firms should strengthen green positioning by targeting green marketing and consumer education to build brand knowledge and increase green product purchase intentions.

**Keywords:** Green Brand Image, Green Brand Positioning, Consumers' Attitudes Towards Green Brands, Environmental Concern, Green Marketing, Green Brand Knowledge, Consumer Purchase Intentions, China

## Introduction

In recent years, environmental problems have become the focus of concern of all countries in the world. The continuous release of greenhouse gases such as carbon dioxide and methane by human industrial activities has caused serious physical and chemical changes to the ecological environments of soil, air and sea water. These changes have not only triggered increased climate unpredictability but have also led to a host of serious consequences, such as global famine, intense thunderstorms, frequent droughts, and

continued temperature increases (He & Silliman, 2019). These changes pose a huge threat to the stability of human societies and ecosystems.

With continuous advances in environmental, scientific, and cyber technologies, as well as increasing public awareness and concern about ecological challenges such as population growth and global warming, understanding consumer green purchasing intentions has become more important than ever (Majeed et al., 2022). With increasing consumers' environmental awareness, green brands have emerged as possessing unique competitive advantages. Therefore, green brand image has become an important factor affecting consumer purchase intentions.

Since the 1980s, when the global warming theory proposed by the American meteorologist James Hansen sparked widespread discussion, environmental concerns have become mainstream worldwide. Due to health concerns, consumers begin to protect themselves by refusing to buy and use daily products containing harmful substances and begin to care about the impact of environmental issues on future generations and actively respond to initiatives to save energy and protect the environment and reject pollution. As a result, consumers' awareness of environmentalism and green consumption began to increase, which was reflected in the willingness of consumers to buy more environmentally friendly products (Chen, 2010).

However, customers' intentions to buy and their consumption decisions are mainly affected by brand attributes and characteristics, which are determined by deeper feelings and perceptions of the brand's image (Silitonga, 2020). Brand image is the overall perception of a brand by consumers, and its ability to influence consumer behaviour. Many companies have taken the lead in demonstrating green attitudes in the hope of gaining consumer attention by creating a green brand image to gain a competitive differentiation in the marketplace.

#### *Environmental Awareness in China*

Environmental protection in China was officially announced in 1972 (Xie, 2020). Beginning from this period, China targeted and achieved a substantial improvement in the environmental management system approximately every ten years. It began with the contribution from a temporary institution, Leading Group of Environmental Protection of the State Council, which collaborated with the present Ministry of Ecology and Environment (MEE). To ensure a proper and smooth development in environmental protection, this was adapted in stages for the betterment of an expanding policy ensuring sustainable economic and social evolution. During the period of September to October 2016, China's government conducted a survey on individual sustainable environmental consumption from 10 cities with 9370 valid questionnaires (Li et al., 2017) as shown in Figure 1.

More than 70% of interviewees were conscious of sustainable environmental consumption. Based on Figure 1, 30.13% of interviewees fully agreed that the environment is directly supported by individual consumption behaviours; 40.9% of them basically agreed; 20.2% of them agreed to a certain level and only 8.82% of them disagreed with it. In fact, environmental awareness in China significantly increased over the years. Based on Figure 2, the range of environmental awareness values had shifted upward, which showed an enhancement in environmental consciousness in China.

It reflected a growing recognition of environmental issues and their importance across the country. Zhang et al. (2024) indicated that citizens in a high socioeconomic class were more active in maintaining their public environmental behaviours, while individuals with household registration were significantly and positively associated with public participation in planned environmental activities. It showed that the citizens with higher social class, such as urban residents, are more inclined to practice multiple environmental behaviours. As such, there was a sharp increase in green consumption of individuals from 2010 to 2021.

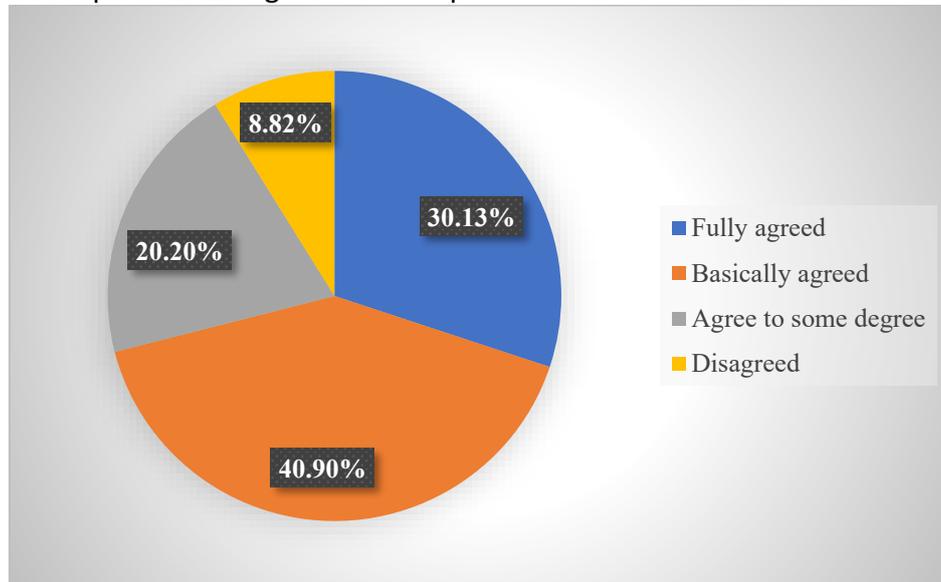


Figure 1 Consumers Agreement that Consumption Has Impact on the Environment

Source: Li et al. (2017)

According to the survey by Deloitte (2023), Chinese consumers have gained an advanced understanding on the values of sustainability and relevant actions to be taken. Chinese consumers of all age groups have a unified focus and more than 60% of them realise the value of saving resources and reducing waste during environmental consumption. Specifically, Chinese consumers are keen to pay a 9% to 15% premium for better and higher quality products (Deloitte, 2023).

The aims of this study are to explore how green brand image influences consumer purchase intentions in China and examine the moderating effect of green brand knowledge on this relationship. China was selected for study due to several reasons. Firstly, China contributed 19.05% of global GDP at the end of October 2024 and ranked first place in the world (International Monetary Fund, 2024). Secondly, China is the second most populous country in the world according to Statista Research Department in July 2022. Thirdly, as discussed in the previous paragraphs, there is greater awareness of sustainability matters among Chinese consumers. As such, the market dynamics of China may significantly influence the global trends. Research conducted in this context can provide insights into a critical economic powerhouse in which the findings have global relevance.

The rest of the paper is organised as follows. The next section is a literature that encompasses the hypotheses development and conceptual framework of the study. This is followed by the methodology, findings and discussion, and conclusion.

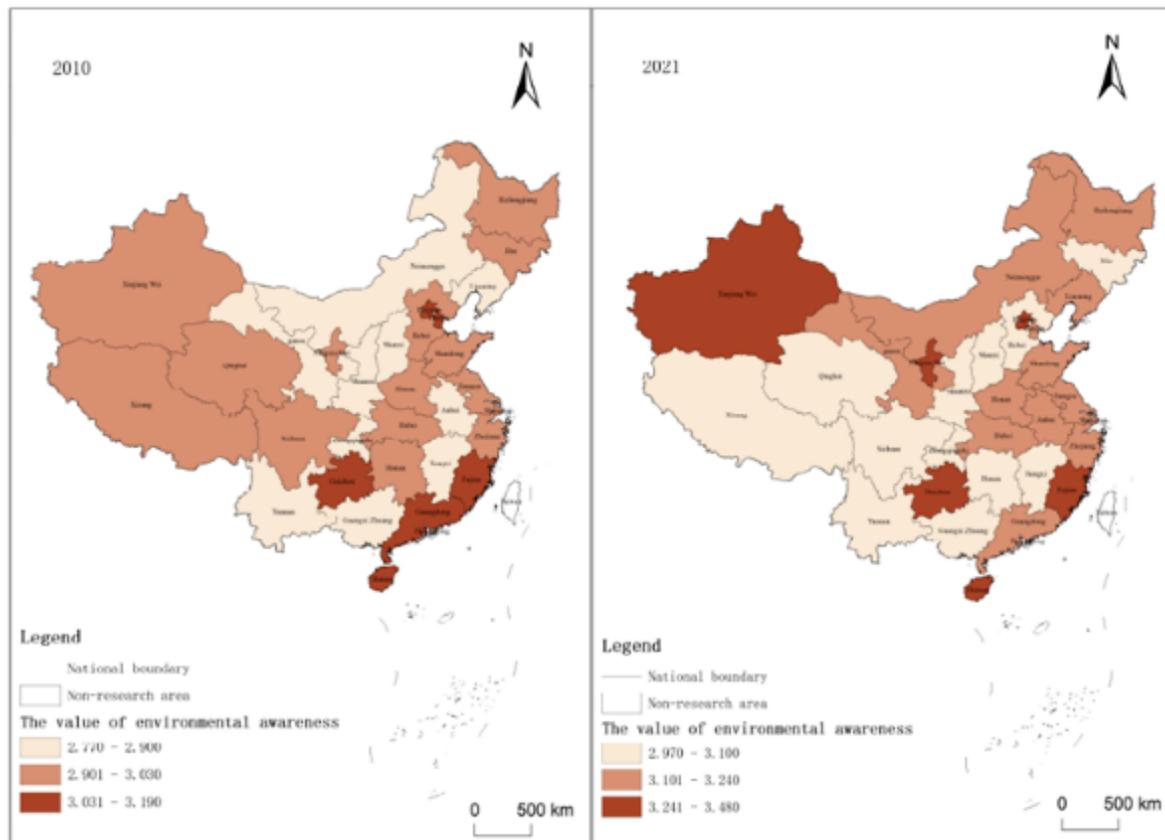


Figure 2 Improvement in Public Environmental Awareness in China from 2010 to 2021

Source: Zhang et al. (2024)

## Literature Review

### *Underlying Theories*

In the context of consumer behaviour, perceived value encompasses cognitive, emotional and attitudinal dimensions (Zeithaml, 1988). It captures individual preferences which vary even among customers with similar economic and price conditions. For instance, customers might choose different products based on their unique needs and preferences. Therefore, Consumer Theory proposed by Zeithaml (1988) provides a valuable theoretical framework for understanding consumer behaviour and Theory of Planned Behaviour (TPB) developed by Ajzen (1991) explains the determinants of individual behaviour, such as the individual's attitude towards the behaviour, subjective norms and perceived behavioural control. In fact, Signalling Theory, which was introduced by Spence (1978), explores how implicit information is conveyed in markets with asymmetric information. In the context of consumer behaviour, the theory explains how the companies communicate product quality and environmental attributes through green certifications and labels.

Complementing TPB, Brand Equity Theory, particularly Keller's (1993) Customer-Based Brand Equity (CBBE) model, introduces the role of Green Brand Knowledge as a critical mediator. Keller emphasises that consumers' responses to brand-related stimuli depend on what they know and perceive about the brand—namely brand awareness and brand associations. In this model, elements such as green brand positioning and green marketing efforts are expected to build consumer knowledge and associations about the brand's sustainability efforts. This accumulated brand knowledge, in turn, positively impacts purchase

intention by strengthening trust and credibility in the brand's environmental claims (Chen, 2010; Keller, 1993).

The broader structure of the conceptual model also fits within the Stimulus-Organism-Response (S-O-R) paradigm (Mehrabian & Russell, 1974), which explains how external stimuli influence internal states and lead to behavioural responses. In this framework, green brand positioning, green marketing, and environmental concern function as stimuli that influence the consumer's internal state or "organism" captured here by their attitude toward green brands and green brand knowledge. These internal psychological and cognitive evaluations then shape the response, which is the consumer's intention to purchase green products. The S-O-R model thus provides a processual view that complements the psychological determinants proposed by TPB and the brand-based associations from the equity theory.

## **Hypothesis Development**

### *Green Brand Positioning*

Green brand positioning focuses on the environmental attributes of the brand, such as the use of environmentally friendly materials and reducing carbon footprint, which are important to consumers (Hartmann et al., 2005). It is closely related to the value of green products or services, which are based on the environmental attributes of the brand. However, green brand positioning must meet consumer expectations so that consumers can associate the brand with its valuable attributes (Guzmán, 2012). Consumers are increasingly concerned about the consistency between brands' environmental commitments and their actual environmental actions. This consistency can also enhance consumer trust and loyalty to the brand (Hartmann et al., 2005). As such, the following hypothesis is proposed: Hypothesis 1 (H1). Green brand positioning has a significant impact on consumer purchase intentions.

### *Consumers' Attitude towards Green Brands*

Chen et al. (2017) defined consumers' attitude towards green brands as a concept developed from the evaluation process of consumers and their rational judgment of green brands. This definition emphasises the cognitive process and evaluation criteria of consumers in forming their attitudes towards green brands. Specifically, consumers evaluate and judge a brand's green image based on the brand's environmental commitment, the product's environmental performance, and the brand's actual actions in environmental protection. In previous research, Solomon (2014) pointed out that consumers' attitude towards a brand is closely related to their brand preference and overall evaluation, which reflects their purchase intention. As such, the following hypothesis is proposed: Hypothesis 2 (H2). Consumers' attitude towards green brands has a significant impact on consumer purchase intentions.

### *Environmental Concern*

Environmental concern is the degree of people's concern and worry about environmental issues, including the use of natural resources, the health of ecosystems and the impact of human activities on the environment (Schultz et al., 2004). The research of Mei et al. (2012) emphasised the importance of environmental concerns on consumers' purchasing behaviour. Consumers who are concerned about environmental issues are often more inclined to choose products that are perceived as environmentally friendly because

they want to have a positive impact on the environment through their consumption behaviour. Chang (2011) pointed out that consumers with higher environmental concerns are willing to pay higher prices for products that meet environmental standards. As such, the following hypothesis is proposed:

Hypothesis 3 (H3). Environmental concern has a significant impact on consumer purchase intentions.

#### *Green Marketing*

Peattie (2001) examined that green marketing plays a crucial role on consumer purchase intentions. The positive response of consumers to green initiatives is not only dependent on the reputation of the firm but also moderated by the consumer's own sense of environmental responsibility (Kim & Chung, 2011). In addition, Alamsyah et al. (2020) have shown that green marketing activities have a significant positive impact on consumer purchase intention to buy environmentally friendly products where the consumers' attention to green marketing is closely related to their personal values and environmental awareness. Therefore, green marketing is not only a means for enterprises to promote environmentally friendly products, but also an important way to shape consumers' environmental awareness, behaviour and purchase decisions (Ashoush & Kortam, 2022). As such, the following hypothesis is proposed:

Hypothesis 4 (H4). Green marketing has a significant impact on consumer purchase intentions.

#### *Green Brand Knowledge*

Green brand knowledge is not only about the physical characteristics of the product, but also about the brand's behaviour and commitment to environmental protection (Chen, 2010; Hartmann & Apaolaza-Ibáñez., 2006). It is consumers' cognition about the environmental protection measures adopted by the brand, the characteristics of green products and their contribution to the environment, as well as includes consumers' understanding of the brand's green image, green satisfaction and green trust. Consumers with knowledge of green brands are more likely to choose and support green brands because they recognise that such choices contribute to environmental protection (Lin et al., 2019; Zhou et al., 2021). Product knowledge involves consumers' understanding of the environmental characteristics, production process and use process of green brand products. Lin et al. (2006) found that the more consumers know about the green features of the product, the higher their trust in the brand and their willingness to buy. As such, the following hypotheses are proposed:

Hypothesis 5a (H5a): Green brand knowledge has a significant moderating effect on the relationship between green brand positioning and consumer purchase intentions.

Hypothesis 5b (H5b): Green brand knowledge has a significant moderating effect on the relationship between consumers' attitude towards green brands and consumer purchase intentions.

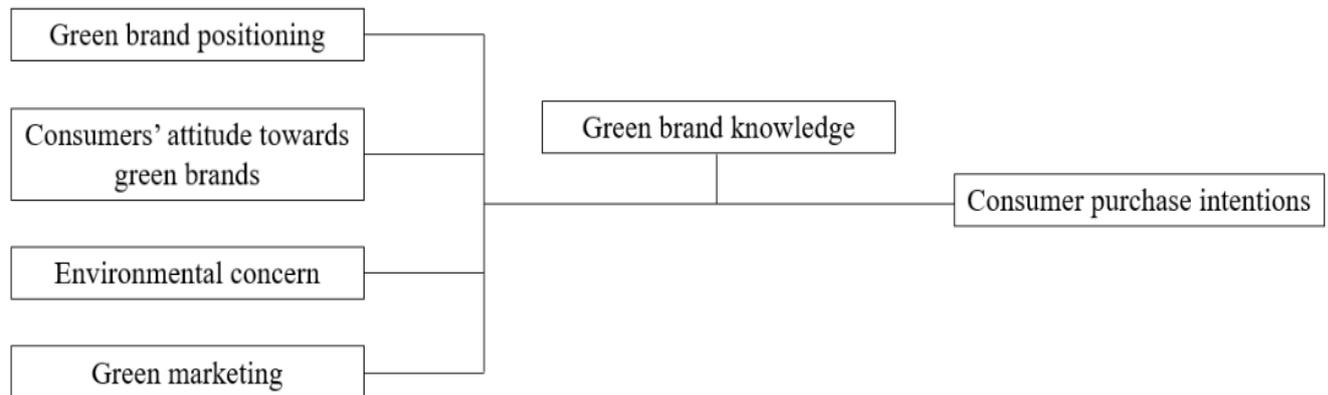
Hypothesis 5c (H5c): Green brand knowledge has a significant moderating effect on the relationship between environmental concern and consumer purchase intentions.

Hypothesis 5d (H5d): Green brand knowledge has a significant moderating effect on the relationship between green marketing and consumer purchase intentions.

*Research Framework*

The conceptual framework of this study is derived from TPB, Signalling Theory, Brand Equity Theory and SOR. In it, green brand positioning, consumers' attitude towards green brands, environmental concern and green marketing are postulated to influence consumer purchase intention. These relationships are hypothesised to be moderated by green brand knowledge as shown in Figure 3.

Figure 3

*Conceptual Framework***Methodology**

The population of the study comprises consumers in China. The home appliance industry was selected for study because it has a wide range of audiences, strong publicity and high consumer familiarity. A home appliance list of green brands such as Midea, Gree, Siemens and other green home appliance brands that are familiar to consumers is provided (CICC Research, 2024). Participants select the brands they know or have used, and evaluate the green brand positioning, consumers' attitude towards green brands, environmental concern, green marketing, green brand knowledge and consumer purchase intentions of the selected brands. The sample comprised respondents from different genders, ages, marital status, education level, income per month and green brand replacement frequency. The study employed a non-probability sampling technique using an online questionnaire distributed among Chinese consumers, primarily targeting university students and their extended networks. A total of 226 questionnaires issued were distributed and all were valid, resulting in a 100% response rate and were eligible for data analysis. Using SPSS software, the valid sample data obtained was examined.

The questionnaire is divided into three parts: the first part is a brief description of the questionnaire content and survey description. The second part is to understand the basic situation of consumers, purchase and understand the green brand. The third part is for each independent variable and moderating variable, using six scales: green brand positioning, consumers' attitude towards green brands, environmental concern, green marketing, green brand knowledge, consumer purchase intentions measurement scale. All scales were measured using a Likert five-point scale with 1 representing "strongly disagree" and 5 representing "strongly agree". A summary of the variables, number of items and sources is shown in Table 1.

Table 1  
*Scale Items*

Variables	Denoted As	Questions	Sources
Green Brand Positioning	A1	Quality and price are important when consumers purchase green products.	Mohd Suki (2016).
	A2	I get to know about green branding through advertisement.	
	A3	Green products have matched my personal.	
	A4	I prefer to purchase environmentally green products.	
Consumers' Attitude towards Green Brands	B1	I feel that green product's environmental reputation is generally reliable.	Siyal et al. (2021)
	B2	I feel that green product's environmental performance is generally dependable.	
	B3	Green product's environmental concern meets my expectations.	
	B4	Green products keep promises and responsibilities for environmental protection.	
Environmental Concern	C1	I am very concerned about the environment.	Siyal et al. (2021)
	C2	I would be willing to reduce my consumption to help protect the environment.	
	C3	Anti-pollution laws should be enforced more strongly.	
Green Marketing	D1	Green marketing affects my purchasing intention of products in general.	Cronin et al. (2011), Kotler (2011) and Leonidou et al. (2013)
	D2	Green advertising and/or campaign of green brand is helpful to increase my environmental awareness.	
	D3	It is important for green brand to make known its green marketing policies to customers.	
	D4	Green marketing affects my purchase of green brand's products.	

Demographic characteristics of the respondents were evaluated through descriptive analysis. The impact of all independent variables on consumer purchase intentions were analysed by multiple regression analysis.

## Results and Discussion

### *Descriptive Statistics*

The demographic profile of the respondents is shown in Table 2. The majority of respondents were female (60.62%). Most of the respondents were between the ages of 26 to 30 years old (37.17%), while the below 20 years old group had the lowest number of respondents (2.65%). More than half of respondents were single (52.44%) and 46.46% of respondents were educated at master's degree level. Among the respondents, the majority

of them earned income between RMB 4,000 to RMB 6,000 per month (30.97%). 59.73% of respondents reported that they replaced green brands 1 to 2 times in a lifetime.

Table 2

*Demographic Characteristics.*

Content	%
<b>Gender</b>	
Male	39.38%
Female	60.62%
<b>Total</b>	<b>100%</b>
<b>Age</b>	
Below 20	2.65%
20 to 25	24.78%
26 to 30	37.17%
31 to 40	18.14%
41 and above	17.25%
<b>Total</b>	<b>99.99%</b>
<b>Marital Status</b>	
Married	47.56%
Single	52.44%
<b>Total</b>	<b>100%</b>
<b>Education Level</b>	
Diploma	26.11%
Bachelor's degree	20.35%
Master's degree	46.46%
Others	7.08%
<b>Total</b>	<b>100%</b>
<b>Income per Month (RMB)</b>	
Below 4,000	11.06%
4,000 to 6,000	30.97%
6,000 to 8,000	25.22%
8,000 to 10,000	21.24%
More than 10,000	11.50%
<b>Total</b>	<b>100%</b>

Table 2

*Continued*

<b>Green Brand Replacement Frequency</b>	
1 to 2 times	59.73%
3 to 4 times	27.88%
5 to 6 times	8.41%
7 to 10 times	3.98%
<b>Total</b>	<b>100%</b>

*Validity and Reliability Tests*

Validity tests were done through the analysis of variance (ANOVA) and multicollinearity analysis. According to Table 3, the ANOVA shows that the predictor variables included in the regression model (green brand positioning, consumers' attitude towards green brands, environmental concern, and green marketing) have a significant overall effect

on the consumer purchase intentions. The significance level (Sig.) is less than 0.001, indicating that the regression model is statistically significant at a very high significance level, which means that these predictor variables combined have significant explanatory power for purchase intention.

Table 3  
ANOVA

Model	Sum of squares	df	Mean square	F	Sig
Regression	87.078	4	21.769	122.302	<.001b
Residual	39.337	221	0.178		
Total	126.415	225			

In multicollinearity analysis, the tolerance of more than 0.1 is considered acceptable, while a serious multicollinearity issue is indicated when it is less than 0.1. Besides, VIF of less than 10 suggest that multicollinearity is within an acceptable range, while there is a serious multicollinearity issue when it is more than 10. Based on Table 4, the tolerance of green brand positioning is 0.244, and the VIF is 4.094, indicating that multicollinearity is within the acceptable range. The tolerance of independent variable consumers' attitude towards green brands is 0.190, and the VIF is 3.009, indicating that multicollinearity is within the acceptable range. 30 The tolerance of environmental concern is 0.347, and the VIF is 2.880, indicating that multicollinearity is within the acceptable range. The tolerance of green marketing is 0.330, and the VIF is 3.030, indicating that multicollinearity is within the acceptable range.

Reliability test is an important method to measure the validity of measurement tools, and only when the reliability and validity of data are within the acceptable range, the subsequent correlation analysis and regression analysis are meaningful. For Likert scale, reliability is usually judged by CITC value of item and Cronbach's  $\alpha$  coefficient.

Table 4  
*Multicollinearity Analysis*

Independent variables	Tolerance	VIF
Green brand positioning	0.244	4.094
Consumers' attitude towards green brands	0.190	3.009
Environmental concern	0.347	2.880
Green marketing	0.330	3.03

Among them, the CITC value generally needs to be above 0.4.  $CITC > 0.5$ , the item has a high contribution to the overall scale;  $0.3 \leq CITC \leq 0.5$ , the item has a moderate contribution to the overall scale and may require further evaluation;  $CITC < 0.3$ , the contribution of items to the overall scale is low, indicating that the correlation between items is not strong enough, and the scale questions under this dimension need to be rearranged. In general, the higher the CITC value, the stronger the correlation between the item and the overall scale, and the higher the Cronbach's  $\alpha$ , the better the internal consistency of the scale.

Cronbach's  $\alpha$  value should be greater than 0.8,  $\alpha \geq 0.8$ , high internal consistency;  $0.7 \leq \alpha < 0.8$ , acceptable internal consistency;  $0.6 \leq \alpha < 0.7$ , suspected internal consistency;

$0.5 \leq \alpha < 0.6$ , poor internal consistency;  $\alpha < 0.5$ , unacceptable internal consistency. The  $\alpha$  value of each subscale should be greater than 0.7,  $0.6 \leq \alpha < 0.7$ , which is an acceptable internal consistency. If the  $\alpha$  value is below 0.6, the question item needs to be adjusted, or the questionnaire needs to be redesigned. Combined with the above analysis, this study believes that when the CITC coefficient value of each item is greater than 0.3 and the Cronbach's  $\alpha$  value of each variable is above 0.6, the scale reliability is acceptable.

Cronbach's  $\alpha$  coefficient of green brand image scale as a whole was 0.887, greater than 0.8, indicating high internal consistency of the scale as a whole. Green brand image consists of four dimensions,  $\alpha$  coefficient of each dimension and CITC value of each item are shown in Table 5. It can be seen from the table that the CITC value of all items is greater than 0.4, indicating that the reliability level of the green brand image scale is high. While the Cronbach's  $\alpha$  coefficient on the green brand knowledge scale was 0.892, greater than 0.8, indicating a high reliability. The CITC values of each item in the green brand knowledge scale are shown in Table 5. It can be seen from the table that the CITC value of all items is greater than 0.4, indicating that the reliability level of the green brand knowledge scale is good.

When the reliability test was conducted on the dependent variable, consumer purchase intention scale, Cronbach's  $\alpha$  coefficient value of the overall item of the scale was 0.848, greater than 0.8, indicating high reliability. The CITC values of each item of consumers' purchase intention are shown in Table 5. It can be seen from the table that the CITC value of all items is greater than 0.6, indicating high reliability of the scale.

Table 5  
*Reliability Test*

Variables	Item	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
Total	-	-	-	0.887
Green brand positioning	A1	0.611	0.777	0.814
	A2	0.578	0.791	
	A3	0.723	0.723	
	A4	0.628	0.77	
Consumers' attitude towards green brands	B1	0.677	0.8	0.832
	B2	0.749	0.826	
	B3	0.77	0.817	
	B4	0.712	0.842	
Environmental concern	C1	0.655	0.646	0.775
	C2	0.599	0.711	
	C3	0.584	0.727	
Green marketing	D1	0.729	0.791	0.849
	D2	0.648	0.825	
	D3	0.699	0.809	
	D4	0.699	0.806	
Green brand knowledge	E1	0.751	0.865	0.892
	E2	0.705	0.846	
	E3	0.795	0.847	
	E4	0.797	0.835	
Consumer purchase intentions	F1	0.689	0.815	0.848
	F2	0.728	0.777	
	F3	0.737	0.77	

*Correlation Analysis*

In this study, Pearson correlation analysis is used to explore the correlation between variables. In terms of empirical analysis, the correlation degree between variables is mainly determined by the P value of the correlation coefficient.  $P < 0.05$  means that there is a significant correlation between variables, or  $P < 0.01$  means that there is a very significant correlation between variables. In this study, 0.01 is used as the test standard.

As shown in Table 6, the four independent variables were positively correlated with consumer purchase intentions, and the significance level was  $p < 0.01$ . The moderating variable, green brand knowledge, was positively correlated with all independent variables and consumer purchase intentions, and the significance levels were all  $p < 0.01$ . In summary, there is a positive correlation between all variables in the theoretical model of this study.

Table 6

*Correlation Matrix*

		(1)	(2)	(3)	(4)	(5)	(6)
1	Green brand positioning	1					
2	Consumers' attitude towards green brands	0.854**	1				
3	Environmental concern	0.760**	0.783**	1			
4	Green marketing	0.747**	0.805**	0.706**	1		
5	Green brand knowledge	0.766**	0.826**	0.789**	0.766**	1	
6	Consumer purchase intentions	0.728**	0.805**	0.747**	0.715**	0.844**	1

Note. \*\* Correlation is significant at the 0.01 level (2-tailed).

The impact of green brand image was examined by a multiple regression analysis and PROCESS macro program in SPSS was carried out to test the moderating effect of green brand knowledge.

*Structural Model*

The findings in Table 7 shows that  $R\text{-squared} = 0.751$ , indicates that the model explains 75.1% of the variance in consumer purchase intentions. Green brand positioning has a significant positive impact on consumer purchase intentions. ( $\beta = 0.074$ ,  $p < 0.001$ ). The other three variables, consumers' attitude towards green brands, environmental concern and green marketing also positively and significantly affect consumer purchase intentions where ( $\beta = 0.352$ ,  $p < 0.001$ ), ( $\beta = 0.309$ ,  $p < 0.001$ ) and ( $\beta = 0.208$ ,  $p < 0.001$ ) respectively. Hence, the hypotheses are supported.

Table 7

*Multiple Regression Analysis and Hypothesis Testing*

Hypothesis	Beta coefficient	R-squared	T value	P value	Decision
1	0.074	0.751	1.097	<.001*	Accepted
2	0.352	0.751	4.577	<.001*	Accepted
3	0.309	0.751	5.436	<.001*	Accepted
4	0.208	0.751	3.569	<.001*	Accepted

The PROCESS macro program in SPSS worked based on the application of mediation, moderation, and conditional process analysis, especially how to use regression analysis methods to process and interpret complex statistical models. As such, the findings are generated as shown in Table 8. The R value of H5 is 0.8565, indicating a strong and significant positive correlation between green brand positioning and consumer purchase intentions (R-squared=0.7336, p=0.00). While the other hypotheses indicated that a strong and significant positive relationship between green brand positioning and consumer purchase intentions as well, where (R-squared=0.7548, p=0.00), (R-squared=0.7322, p=0.00) and (R-squared=0.7235, p=0.00) respectively. Hence, the hypotheses are supported.

Table 8

*The Moderating Effect of Green Brand Knowledge*

Hypothesis	R value	R-squared	Mean squared error	P value	Decision
5a	0.8565	0.7336	0.1517	0.00	Accepted
5b	0.8688	0.7548	0.1396	0.00	Accepted
5c	0.8557	0.7322	0.1525	0.00	Accepted
5d	0.8506	0.7235	0.1560	0.00	Accepted

Green brand knowledge plays a significant moderating role between all independent variables above and consumer purchase intentions. The research results show that the higher the green brand knowledge, the greater the impact of green brand image on consumer purchase intentions. As green brand knowledge enhances the understanding of consumers towards environmental initiatives of a brand, it makes the brand's eco-friendly image more credible and appealing. This deeper awareness strengthens the emotional and rational connection to the brand, thereby amplifying its influence on consumer purchase intentions.

**Conclusion***Summary of Research Findings*

This study highlighted various factors affecting Chinese consumer purchase intentions, accompanied with moderating effect of green brand knowledge. Firstly, this study proved the significant positive impact of green brand positioning on consumer purchase intentions. This result supported the research by Hartmann and Apaolaza-Ibáñez (2006) which indicated a significant effect to consumer purchase intentions by green brand positioning. This alignment may enhance the trust and emotional connection of consumers with the green brand, thereby positively influencing their purchase intentions. Furthermore, this study proved that the consumers' attitude towards green brands positively affects the consumer purchase intentions. According to the study of Hartmann and Apaolaza-Ibáñez (2012), consumers' attitude towards green brands is significantly related to consumer purchase intentions regarding sustainability and growth on the green products, which corresponds with this study. This emphasises how favourable Chinese consumer attitude towards green brands directly influences the willingness of consumers to support such brands through their purchase decisions.

Next, environmental concern proved a significant positive impact towards consumer purchase intentions in this study. The result was similar in a previous study in which a significant relationship between environmental concern and consumer purchase intentions was proved as well (Newton et al., 2015). Therefore, it can be explained that heightened

environmental concern may motivate Chinese consumers to make purchase decisions that align with their eco-conscious values. Such concern drives the consumers to prioritise brands that demonstrate environmental responsibility, thereby strengthening their purchase intentions. Moreover, green marketing proved to significantly and positively influence consumer purchase intentions in this study. However, this result contradicted the research by Grimmer and Woolley (2014) which indicated that there was no significant impact on consumer purchase intentions in terms of various types of green marketing. The finding of this study suggests that effective green marketing strategies resonate with Chinese consumers. The discrepancy may stem from differences in how green marketing is implemented or perceived across the contexts and highlighting the importance of tailoring strategies to target consumers.

In exploring the moderating effect of green brand knowledge on the relationship between green brand image and consumer purchase intentions, green brand knowledge has proved a significant positive moderating role in the relationship. This study showed that the higher level of green brand knowledge, the greater the impact of green brand image on consumer purchase intentions. However, this finding was partially contradicted with the results obtained by Siyal et al. (2021) and Mohd Suki (2016) which indicated that green brand knowledge did not significantly moderate the relationship between green brand positioning and consumer purchase intentions. Furthermore, there are limited studies exploring the moderating effect of green brand knowledge towards the impact of consumers' attitude towards green brands, environmental concern and green marketing on consumer purchase intentions. This inconsistency might arise from the differences in green brand image and green brand positioning interact with the consumer perceptions as these constructs focused on distinct aspects of brand identity. The moderating role of green brand knowledge may vary based on the specific attributes of consumer value, such as imagery versus positioning, and reflect different needs and priorities of consumers towards the green brand. Furthermore, limited exploration of its moderating effects on other variables like consumers' attitude towards green brands, environmental concern and green marketing leaves room for further investigation of green brand knowledge in shaping the consumer responses across different dimensions. Nonetheless, in aggregate, this study contributes to the existing literature on the impact of green brand image on Chinese consumer purchase intentions.

#### *Theoretical and Contextual Contributions*

This study makes important theoretical and contextual contributions to the literature on green marketing and consumer behaviour. Theoretically, it advances existing knowledge by conceptualising green brand image as a multidimensional construct comprising green brand positioning, consumer attitudes, environmental concern, and green marketing, thereby providing a clearer framework for understanding how green perceptions influence purchase intentions. The study further extends prior research by empirically demonstrating the moderating role of green brand knowledge, clarifying inconsistent findings in the literature regarding when and how green brand perceptions translate into behavioural intentions. Contextually, this study provides new empirical evidence from the Chinese market, where rapid industrial development and increasing environmental awareness create a distinctive setting for examining green consumption. The findings highlight market-specific dynamics that shape green purchasing behaviour in China and offer valuable insights for understanding sustainable consumption in emerging economies.

### *Limitations of Study*

Several limitations of this study are noted. Firstly, although the total number of valid questionnaires met the statistical analysis requirements, the sample size is small. Secondly, there are significant limitations in the survey method. Questionnaires are based on self-report data, which may lead to social expectation bias, that is, respondents tend to provide answers that meet social expectations rather than their true thoughts and behaviours. Therefore, a single survey method may not be enough to fully reflect consumers' true attitudes and purchase intentions towards green brands. Thirdly, the research scope is confined to selected home appliance brands as representatives of green consumption but did not specify the product types.

### *Suggestions for Future Research*

Future research can combine multiple data collection methods, such as in-depth interviews, focus groups, and experimental studies, to obtain more comprehensive and real data and improve the reliability and validity of the research results. Furthermore, future research can test the model of this study again for specific green brands or products and set up virtual brands for investigation.

### **Declaration of Interests**

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

### **References**

- Ajzen, I. (1991). The theory of planned behaviour. *Organizational behaviour and human decision processes*, 50 (2), 179-211.
- Alamsyah, D., Othman, N., & Mohammed, H. (2020). The awareness of environmentally friendly products: The impact of green advertising and green brand image. *Management Science Letters*, 10(9), 1961-1968.
- Ashoush, N., & Kortam, W. (2022). The impact of green marketing strategies on consumers' purchasing intention. *The Business and Management Review*, 13(2), 263-275.
- Chang, C. H. (2011). The influence of corporate environmental ethics on competitive advantage: The mediation role of green innovation. *Journal of Business Ethics*, 104(3), 361-370.
- Chen, Y. S. (2010). The drivers of green brand equity: Green brand image, green satisfaction, and green trust. *Journal of Business ethics*, 93(2), 307-319.
- Chen, Y. S., Hung, S. T., Wang, T. Y., Huang, A. F., & Liao, Y. W. (2017). The influence of excessive product packaging on green brand attachment: The mediation roles of green brand attitude and green brand image. *Sustainability*, 9(4), 654.
- CICC Research, CICC Global Institute xinran.liu@cicc.com.cn. (2024). The Globalization of Chinese Home Appliance Brands: A Long Way to Go. *The Reshaping of China's Industry Chains* (pp. 313-329). Singapore: Springer Nature Singapore.
- Cronin Jr, J. J., Smith, J. S., Gleim, M. R., Ramirez, E., & Martinez, J. D. (2011). Green marketing strategies: an examination of stakeholders and the opportunities they present. *Journal of the Academy of Marketing Science*, 39(1), 158-174.
- Deloitte. (2023). *The "Sustainability" Difference between China and the West from Consumers' Perspective*. Deloitte China. <https://www2.deloitte.com/content/dam/Deloitte/cn/Documents/finance/deloitte->

- cn-fa-differences-in-sustainability-between-china-and-the-west-from-consumer-perspective-en-240220.pdf
- Grimmer, M., & Woolley, M. (2014). Green marketing messages and consumers' purchase intentions: Promoting personal versus environmental benefits. *Journal of Marketing Communications, 20*(4), 231-250.
- Guzmán, F. (2012). *Consumer perception of brand equity measurement: A new scale* (Doctoral dissertation, Doctoral dissertation). University of North Texas, USA).
- Hartmann, P., & Apaolaza Ibáñez, V. (2006). Green value added. *Marketing Intelligence and Planning, 24*(7), 673-680.
- Hartmann, P., & Apaolaza-Ibáñez, V. (2012). Consumer attitude and purchase intention toward green energy brands: The roles of psychological benefits and environmental concern. *Journal of Business Research, 65*(9), 1254-1263.
- Hartmann, P., Apaolaza Ibáñez, V., & Forcada Sainz, F. J. (2005). Green branding effects on attitude: functional versus emotional positioning strategies. *Marketing intelligence and planning, 23*(1), 9-29.
- He, Q., & Silliman, B. R. (2019). Climate change, human impacts, and coastal ecosystems in the Anthropocene. *Current Biology, 29*(19), R1021-R1035.
- International Monetary Fund. (2024). *GDO based on PPP, Share of World*. International Monetary Fund. <https://www.imf.org/external/datamapper/PPPSH@WEO/CHN/USA/JPN>
- Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing, 57*(1), 1-22.
- Kim, H. Y., & Chung, J. E. (2011). Consumer purchase intention for organic personal care products. *Journal of Consumer Marketing, 28*(1), 40-47.
- Kotler, P. (2011). Reinventing marketing to manage the environmental imperative. *Journal of Marketing, 75*(4), 132-135.
- Leonidou, C. N., Katsikeas, C. S., & Morgan, N. A. (2013). "Greening" the marketing mix: Do firms do it and does it pay off?. *Journal of the Academy of Marketing Science, 41*(2), 151-170.
- Li, Y., Zhang, L. and Jin, M. (2017). *Report on Consumer Awareness and Behaviour Change in Sustainable Consumption*. China Chain Store and Franchise Association. [https://www.oneplanetnetwork.org/sites/default/files/en\\_report\\_on\\_consumer\\_awareness\\_and\\_behavior\\_change\\_in\\_sustainable\\_consumption\\_in\\_china-final.pdf](https://www.oneplanetnetwork.org/sites/default/files/en_report_on_consumer_awareness_and_behavior_change_in_sustainable_consumption_in_china-final.pdf)
- Lin, J., Lobo, A., & Leckie, C. (2019). The influence of green brand innovativeness and value perception on brand loyalty: the moderating role of green knowledge. *Journal of Strategic Marketing, 27*(1), 81-95.
- Lin, L. Y., & Chen, C. S. (2006). The influence of the country-of-origin image, product knowledge and product involvement on consumer purchase decisions: an empirical study of insurance and catering services in Taiwan. *Journal of Consumer Marketing, 23*(5), 248-265.
- Majeed, M. U., Aslam, S., Murtaza, S. A., Attila, S., & Molnár, E. (2022). Green marketing approaches and their impact on green purchase intentions: Mediating role of green brand image and consumer beliefs towards the environment. *Sustainability, 14*(18), 11703.
- Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology*. the MIT Press.

- Mei, O. J., Ling, K. C., & Piew, T. H. (2012). The antecedents of green purchase intention among Malaysian consumers. *Asian Social Science*, 8(13), 248-263.
- Mohd Suki, N. (2016). Green product purchase intention: impact of green brands, attitude, and knowledge. *British Food Journal*, 118(12), 2893-2910.
- Newton, J. D., Tsarenko, Y., Ferraro, C., & Sands, S. (2015). Environmental concern and environmental purchase intentions: The mediating role of learning strategy. *Journal of Business Research*, 68(9), 1974-1981.
- Statista. (2024). *Countries with the Largest Population 2024*. Statista Research Department. <https://www.statista.com/statistics/262879/countries-with-the-largest-population/>
- Peattie, K. (2001). Towards sustainability: The third age of green marketing. *The Marketing Review*, 2(2), 129-146.
- Schultz, P. W., Shriver, C., Tabanico, J. J., & Khazian, A. M. (2004). Implicit connections with nature. *Journal of Environmental Psychology*, 24(1), 31-42.
- Silitonga, N. G. P. (2020). *Impact of brand image and discounted price on consumer purchase intention at H&M, Tunjungan Plaza Shopping Mall* (Doctoral dissertation, Widya Mandala Catholic University Surabaya).
- Siyal, S., Ahmed, M. J., Ahmad, R., Khan, B. S., & Xin, C. (2021). Factors influencing green purchase intention: Moderating role of green brand knowledge. *International Journal of Environmental Research and Public Health*, 18(20), 10762.
- Solomon, M. R., Dahl, D. W., White, K., Zaichkowsky, J. L., & Polegato, R. (2014). *Consumer behavior: Buying, having, and being* (Vol. 10). London: pearson.
- Spence, M. (1978). Job market signaling. In P. Diamond, & M. Rothschild (Eds.), *Uncertainty in economics* (pp. 281-306). Academic Press.
- Xie, Z. (2020). China's historical evolution of environmental protection along with the forty years' reform and opening-up. *Environmental Science and Ecotechnology*, 1, 100001.
- Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. *Journal of Marketing*, 52(3), 2-22.
- Zhang, J., Xue, C., & Hou, G. (2024). The Impact of Chinese public environmental Awareness on environmental behavior: an analysis based on China national surveys in 2003, 2010 and 2021. *Land*, 13(9), 1418.
- Zhou, Z., Zheng, F., Lin, J., & Zhou, N. (2021). The interplay among green brand knowledge, expected eudaimonic well-being and environmental consciousness on green brand purchase intention. *Corporate Social Responsibility and Environmental Management*, 28(2), 630-639.