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Analysis of the Development Strategy and Mechanism of Green Marketing in Enterprises

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Abstract

This article investigates how customer purchase decisions in the retail industry are impacted by green marketing tactics. It demonstrates how eco-marketing, often known as green marketing, has developed from a niche idea centered on legal compliance to a widely employed tactic essential to business success. Creating environmentally friendly products, using sustainable packaging, providing energy-efficient options, implementing CSR programs, gaining green certifications, being open and honest with communication, and interacting with the community are all important tactics. The article looks at how these tactics fit in with customer preferences, improve brand perception, and support environmental sustainability. In the empirical analysis section, this study takes rice marketing as an example and combines the SOR theoretical model to explore the construction of a theoretical model for the impact of green marketing on purchase intention, and explores the intermediary mechanism within it. And provide green marketing strategies

Keywords: Green Marketing, SOR Model, Environmentally Friendly Marketing

Introduction

In recent years, the retail sector has witnessed a significant surge in the adoption of green marketing. Commonly referred to as environmental or eco-marketing, green marketing entails the promotion of products and services based on their ecological advantages.(Polonsky & Rosenberger, 2001).The adoption of this strategy is not solely driven by regulatory pressures, but also stems from a proactive approach to cater to the increasing consumer demand for sustainability.(Rex & Baumann, 2007). With the increasing awareness of global environmental issues such as climate change, pollution, and resource depletion, consumers are more inclined to make purchasing decisions that align with their environmental values (Ginsberg & Bloom, 2004). Consequently, companies are integrating green marketing strategies to appeal to these eco-conscious consumers, enhance their brand image, and achieve a competitive edge in the market (Chen, 2010; Leonidou, Katsikeas, & Morgan, 2013). This essay explores the influence of green marketing strategies on consumer purchasing decisions in retail, examining the various tactics employed by companies and the psychological factors driving consumer behavior. Through a detailed analysis, we aim to understand how green marketing not only fosters environmental responsibility but also

shapes consumer preferences and business practices in the retail industry (Kotler & Armstrong, 2017; Belz & Peattie, 2009).

The Evolution of Green Marketing: In the 1980s and 1990s, people began to use the concept of green marketing. In 1969, the United States Congress approved the National Environmental Policy Act. In the mid-1970s, a few scholars began to study ecological marketing; Due to the further deterioration of environmental issues and the increasing awareness of environmental protection among consumers, green marketing was widely recognized in the late 1980s and early 1990s. At the International Marketing Seminar held in Hong Kong in November 1992, domestic scholars first came into contact with this concept and began researching it. Afterwards, the research process of green marketing in China roughly went through the stages of enlightenment, growth, and maturity. Among them, the period from 1993 to 1994 was the enlightenment stage of green marketing, and the meaning and importance of green marketing were initially proposed. The period from 1995 to 1997 was the growth stage of green marketing, and research mainly focused on theoretical analysis and the impact of green barriers on China's foreign trade; After 1998, research on green marketing entered a mature stage. In addition to further deepening theoretical research, green marketing also drove the research of other related theories, such as green consumption, green circulation, and the strengthening of government role. With the increasing maturity of green marketing theory research, it has a more guiding role for enterprise practice. Meanwhile, with the increasing awareness of green among consumers, purchasing green products has become an inevitable trend, and implementing green marketing will be an inevitable choice for enterprise development in the future.

Early Stages (1970s-1980s):Green marketing initially emerged in the 1970s and 1980s as a response to increasing regulatory requirements and public pressure to address environmental concerns. During this period, green marketing efforts were largely reactive, focusing on pollution control, waste management, and compliance with environmental laws (Peattie, 1995). Companies highlighted basic environmental practices such as reducing emissions and responsibly managing waste, but consumer awareness and demand for green products were limited.

Proactive Strategies (The 1990s): The 1990s marked a significant shift towards more proactive green marketing strategies. Businesses began to recognize environmental responsibility as a competitive advantage. This period saw the emergence of green products designed to minimize environmental impact. Companies started integrating sustainability into their core business strategies, investing in cleaner technologies and sustainable practices (Ottman, 2011). Marketing campaigns began to emphasize the environmental benefits of products, such as energy efficiency, biodegradability, and the use of recycled materials (Dahlstrom, 2011).

Integration and Innovation(The 2000s): In the early 2000s, green marketing became more integrated into corporate strategies. The rise of globalization and increased consumer awareness about environmental issues led companies to adopt more innovative approaches. Comprehensive sustainability programs, eco-labels, and certifications such as Fair Trade, USDA Organic, and Energy Star were introduced (Polonsky & Rosenberger, 2001). Companies

began to communicate their sustainability efforts more transparently, using detailed reports and digital platforms to reach a broader audience (Rex & Baumann, 2007).

Mainstream Adoption(The 2010s):By the 2010s, green marketing had been widely adopted by mainstream businesses. Environmental sustainability became a core value for many leading brands. Companies like Patagonia, IKEA, and Unilever emerged as pioneers in green marketing, setting high standards for sustainability in their respective industries (Chen, 2010; Leonidou, Katsikeas, & Morgan, 2013). Consumer demand for eco-friendly products soared, driven by increased awareness and a growing segment of environmentally conscious buyers. Social media and digital marketing played a crucial role in spreading awareness and engaging consumers in sustainability dialogues (Ginsberg & Bloom, 2004).

Present and Future Trends:Today, green marketing is an integral part of the business landscape. The focus has expanded to include the entire lifecycle of products, from sustainable sourcing and ethical production to eco-friendly packaging and end-of-life disposal (Leonidou, Katsikeas, & Morgan, 2013). Companies are increasingly held accountable not only for their direct environmental impact but also for the sustainability of their supply chains. Innovative trends such as the circular economy, zero-waste initiatives, and carbon neutrality are shaping the future of green marketing. Businesses are leveraging advanced technologies like blockchain for transparency in supply chains and artificial intelligence to optimize resource use (Patagonia, 2021; Starbucks, 2021). The rise of the conscious consumer, particularly among younger generations, continues to drive the demand for sustainable products and practices (Kotler & Armstrong, 2017).

Literature Review

Definition and Concept of Green Marketing

Green marketing, also known as environmental marketing or sustainable marketing, means that enterprises integrate environmental protection concepts in their marketing activities to meet consumer needs by producing and promoting environmentally friendly products. Ottman (2011) pointed out that green marketing not only focuses on the environmental performance of products, but also involves all aspects from product design, production process to packaging and advertising to reduce the negative impact on the environment. Peattie (1995) further emphasized that green marketing is an important means for enterprises to improve market competitiveness and an effective way to achieve sustainable development goals.

The core of green marketing is the development, production and sale of products in an environmentally friendly way. Dahlstrom (2011) believed that green marketing management involves the comprehensive greening of corporate marketing strategies, including the greening of products, prices, channels and promotions. This not only helps enterprises establish an image of environmental protection, but also attracts more consumers who are concerned about environmental protection, so as to stand out in the market competition.

Main Types of Green Marketing Strategies

Green marketing strategies mainly include the following types:

Green product development: Green product development is an important part of green marketing, covering the whole process from raw material selection, design, production,

packaging and transportation, use to recycling and disposal. Its core is to reduce the negative impact of the product life cycle on the environment by using environmentally friendly materials, optimizing production processes, adopting environmentally friendly packaging and low-carbon transportation. For example, many enterprises have begun to use degradable materials and renewable resources to produce products to reduce the negative impact on the environment (Belz & Peattie, 2009). Despite challenges such as increased costs, technological limitations and insufficient consumer awareness, with the growth of market demand, brand image improvement and policy support, green product development has brought significant market opportunities and economic benefits to enterprises, achieving a win-win situation between economic and environmental benefits. This strategy not only helps enterprises establish an environmental image in the market, but also attracts more and more consumers who are concerned about environmental protection (Dangelico & Pujari, 2010).

Green pricing: the price should be set reasonably to reflect the environmental protection cost of the product and attract environmental consumers who are willing to pay a premium (Ginsberg & Bloom, 2004). Green pricing takes into account not only the cost of production and materials, but also the environmental cost, ensuring that the price of a product can reflect its environmental value. This strategy can effectively attract consumers who value environmental protection by emphasizing the unique environmental characteristics of products (Leonidou, Katsikeas, & Morgan, 2018). In addition, the green pricing strategy also focuses on transparency and fairness to clearly communicate the price composition and environmental value to consumers, thus increasing consumers' trust in the brand. By clearly demonstrating the specific contribution of products in terms of reducing carbon emissions, saving energy and using renewable resources, companies are better able to educate and guide consumers in their purchasing decisions. Green pricing not only helps enterprises cover environmental protection costs, but also wins them environmentally conscious customer groups and improves market competitiveness and brand loyalty. In addition, the green pricing strategy encourages more enterprises to adopt environmental protection measures, thus promoting the transformation of the whole industry to sustainable development and achieving the dual goals of environmental protection and economic development. With the continuous improvement of environmental awareness among consumers, green pricing, as an important market tool, will play an increasingly critical role in the future to promote the popularization of environmentally friendly products and the transformation of consumption patterns.

Green advertising and promotion: improving consumers' environmental awareness and purchase intention by promoting the environmental protection characteristics of products (Rex & Baumann, 2007). Green advertisements usually emphasize eco-friendly attributes of products, such as low energy consumption, no pollution, and renewable resource use, to attract environmentally conscious consumers (Joshi & Rahman, 2019). In addition, enterprises can enhance their green image by participating in environmental protection activities and supporting environmental organizations (Ghazali, Nguyen, & Mutum, 2020).

Green logistics and packaging: Adopt sustainable logistics and packaging methods to reduce carbon emissions and environmental pollution (Leonidou, Katsikeas, & Morgan, 2018). For example, using renewable or degradable packaging materials, and optimizing logistics transportation paths to reduce carbon footprint (Liu, Wang, Shishime, & Fujitsuka, 2020).

These measures can not only reduce the negative impact on the environment, but also enhance consumer recognition and loyalty to the brand. Green advertising and promotion strategies are not limited to traditional advertising media, but can further expand the dissemination scope and influence of environmental protection information through social media platforms, influencer collaboration, and content marketing. By publishing articles, videos, and activities on environmental topics, companies are able to build deeper interactions and emotional connections with consumers, thereby enhancing brand identity and loyalty. Companies can also use promotional means such as limited-time discounts, membership offers and environmental incentive programs to motivate consumers to choose environmentally friendly products. For example, offers to recycle used products in exchange for discounts on new products not only boost sales, but also reduce waste generation. In addition, by holding environmental education lectures, participating in community environmental projects and sponsoring environmental organizations, companies are able to demonstrate their commitment to sustainable development and further enhance the green image of their brands.

Consumers' Purchasing Decision-Making Process

The consumer purchase decision process usually includes five stages: problem identification, information search, program evaluation, purchase decision and post-purchase behavior. In the context of green marketing, consumers consider the eco-friendly features of products at each stage.

Problem identification: With the increasingly severe environmental problems, consumers have an increasing demand for environmentally friendly products. This awakening of consciousness usually stems from concerns about environmental issues such as global warming, air pollution, and water scarcity. Social media, news reports and education campaigns have played an important role in raising public awareness of environmental protection. When consumers understand the negative impact of their consumption behavior on the environment, they are often more inclined to find and choose environmentally friendly products. Specifically, consumers may focus on the life cycle of products and choose those that have the least environmental impact during production, use, and disposal. For example, after becoming aware of the plastic pollution problem, consumers may look for biodegradable or reusable alternatives (Polonsky & Rosenberger, 2001). In addition, consumers' environmental awareness not only affects individual purchase behavior, but may also extend to affect their brand awareness and loyalty, prompting companies to adjust their production and marketing strategies to meet the growing green consumer demand. This increase in environmental awareness ultimately drives the market demand for green products, forming a virtuous cycle that helps achieve broader environmental protection goals.

Information search: In the information search stage, consumers pay special attention to the environmental certification of products and the commitment of enterprises to sustainable development (Chen, 2010). They will obtain information about green products through the Internet, social media and word of mouth (Gleim & Lawson, 2019). Consumers also rely on consumer review sites and forums to get real feedback and advice from other users. Word-of-mouth also plays a key role in this stage, as consumers tend to trust the recommendations of relatives, friends and colleagues. In addition, some consumers will attend exhibitions and lectures on environmental protection topics, and communicate face to face with industry

experts and brand representatives to further verify the environmental protection characteristics of products and the sustainable development commitment of enterprises. By integrating information from various channels, consumers can more comprehensively evaluate the real environmental performance of green products and make more informed purchase decisions.

Scenario evaluation: At this stage, consumers compare the environmental performance of different products. For example, they may compare the two brands' environmental commitments, product materials, and production processes (Joshi & Rahman, 2019). This evaluation process is not limited to the product itself, but also includes the overall environmental performance and market reputation of the enterprise (Nguyen, Lobo, & Vu, 2020).

Purchase decision: Consumers finally decide to purchase a certain green product based on the information and evaluation results of the previous stages. This decision is often influenced by factors such as price, brand reputation and environmental performance (Leonidou, Katsikeas, & Morgan, 2018). In addition, consumers will also consider their own environmental values and social responsibility (Sun & Trudel, 2018).

Post-purchase behavior: After purchase, consumers may decide whether to repeat purchase or recommend the product to others based on the actual environmental effect and use experience of the product. Satisfaction at this stage directly affects future purchase behavior and brand loyalty (Gonzalez & Macias, 2020). Enterprises' after-sales service and fulfillment of environmental protection commitments will also have an impact on consumers' post-purchase behavior (Sun & Wang, 2019).

The Impact of Green Marketing Strategies on Consumers' Purchase Decisions

Green marketing strategies influence consumer purchase decisions in a number of ways. First of all, green advertising and promotional activities can significantly improve consumers' environmental awareness and prompt them to give priority to environmentally friendly products when purchasing. Studies have shown that emphasizing the environmental characteristics of products and the commitment of enterprises to environmental protection can effectively attract consumers who attach importance to environmental protection (Ginsberg & Bloom, 2004).

Secondly, green pricing strategies attract consumers who are willing to pay a premium for environmental protection by reflecting the environmental value of the product. Many consumers are willing to pay higher prices for products that reduce environmental pollution. This strategy can not only improve the profit margin of enterprises, but also enhance consumers' recognition and loyalty to the brand (Kotler & Armstrong, 2017).

In addition, green logistics and packaging strategies not only help reduce environmental pollution, but also enhance consumer recognition and loyalty to the brand. For example, the use of renewable or degradable packaging materials can not only reduce the amount of landfill, but also enhance consumers' recognition of the brand's eco-friendly image (Gonzalez & Macias, 2020).

In conclusion, green marketing strategies effectively influence consumers' purchasing decisions by raising their environmental awareness, providing environmentally friendly options, and enhancing brand image. This not only promotes the sustainable development of enterprises, but also promotes the improvement of environmental awareness and behavior change of society.

Relevant Theoretical Basis

The relevant theoretical foundations of green marketing include Theory of Planned Behavior (TPB) and Theory of Reasoned Action (TRA). These theories help explain consumers' purchase behaviors driven by environmental awareness (Chan & Wong, 2018). Specifically, TPB theory predicts consumers' behavioral tendencies through three dimensions: attitude, subjective norm and perceived behavioral control (Ajzen, 1991).

The theory of planned behavior suggests that an individual's behavioral intention is the best predictor of his or her actual behavior, which is influenced by attitudes, subjective norms, and perceived behavioral control. Attitude refers to an individual's positive or negative evaluation of a certain behavior; Subjective norm refers to the social pressure felt by individuals, that is, the opinions of others on their behavior; Perceived behavioral control refers to an individual's perception of the difficulty of performing a certain behavior (Ajzen, 1991).

In the context of green marketing, environmental knowledge plays a moderating role in these theoretical models. Studies have shown that the higher the level of environmental knowledge of consumers is, the stronger the relationship between their green purchase intention and behavior is (Suki & Suki, 2019). This means that improving consumers' environmental knowledge can effectively enhance the effect of green marketing strategies, thus promoting the formation of green consumption behaviors.

In addition, reason action theory (TRA) has also been widely used to explain green consumption behavior. TRA theory emphasizes that behavioral intentions are determined by both attitudes and subjective norms. In the context of green consumption, consumers' environmental attitudes and social norms will affect their purchase decisions. For example, if a consumer highly values environmental protection and most people in his social circle also support environmental protection, he is more likely to buy green products (Leonidou, Katsikeas, & Morgan, 2018).

Wang Wenju (1997) and others believe that there are three theoretical foundations for green marketing: firstly, using ecological economics, environmental economics, etc. as theoretical foundations, revealing the interrelationships between ecosystems, environmental systems, and marketing systems, and exploring ways to promote the coordinated development of marketing activities and the ecological environment; Secondly, based on the theory of sustainable development, analyze the role of marketing activities in the sustainable utilization of natural resources, protection of the ecological environment, and poverty alleviation, and establish the concept that economic development does not necessarily come at the cost of sacrificing the environment; The third is to use Marxist philosophy as the theoretical foundation. Analyze and reveal the short-term or long-term adverse consequences of marketing activities that violate natural laws and cause harm to the natural world. Xiong Yi (1999) pointed out that the Pareto optimal standard in new welfare economics is the

theoretical foundation of green marketing. New welfare economics believes that only under certain income distribution conditions, changes in production and exchange conditions that make some people better off while others do not, can it mean an increase in social welfare. Currently, many enterprises only focus on immediate benefits and simply pursue profit maximization, at the cost of deteriorating environmental pollution and resource waste and depletion. This behavior seriously violates the principle of Pareto optimality. Ma Ruijing (2000) believes that modern economic theories of green marketing include four aspects: ecological economics, environmental economics, green economics, and Western economics. She believes that ecological economics is the theoretical basis for the emergence of green marketing concepts and the formation of green product prices; The scarcity of environmental resources makes green marketing an inevitable trend, and the value of environmental resources is the basis for determining green value and setting green prices; The external diseconomies theory and the "three benefits" theory in green economics provide a theoretical basis for green marketing; The contradiction between private marginal value and social marginal value in Western economics makes green marketing inevitable.

Hypothesis Statement

H1: Green brand knowledge has a significant positive impact on purchase intention.
H2: Environmental knowledge has a significant positive impact on purchase intention.
H3: Environmental attitude has a significant positive impact on purchase intention.

Research Methodology

This document outlines the data collection instrument used for a survey examining the relationship between green brand knowledge,environmental knowledge, environmental attitudes, and purchase intentions. The instrument is designed to collect quantitative data through structured questions, utilizing both primary and secondary data sources.

Data Collection Instrument

Raw Data

Method: The survey will collect primary data directly from participants using an online questionnaire format.
Target Population: Consumers aged 18 and above, diverse in demographics, who may have varying levels of awareness and attitudes toward environmental issues and green brands.
Sample Size: Aim for a minimum of 145 responses to ensure statistical significance and generalizability.
Platform: Use platforms like Google Forms or Survey Monkey to distribute the survey and collect responses.

Measurement and Measurement

Likert Scale

Purpose: The Likert scale is used to assess opinions, attitudes, and satisfaction levels regarding green brand knowledge, environmental knowledge, environmental attitudes, and purchase intention.

Scale Format: A 5-point Likert scale is employed for consistency and ease of analysis:
1 = Strongly Disagree / Very Unfamiliar
2 = Disagree / Somewhat Unfamiliar

3 = Neutral
4 = Agree / Somewhat Familiar
5 = Strongly Agree / Very Familiar

Multiple Choice Questions
Purpose: Used for collecting demographic information and basic categorical data about participants.

Percentage Range
Purpose: Used for questions related to behavioral aspects and the financial impact of purchasing green products, capturing data in percentage terms.

Questionnaire Sources
Questionnaire items were adapted from previous studies, such as Lee (2021) and Zhang (2019), which have been validated in similar research contexts. These sources provided a foundation for developing reliable instruments that meet contemporary research needs.

Sources of Secondary Data
Industry Reports
Market Research Firms: Access reports from firms like Nielsen, Statista, and Mintel that provide insights into consumer preferences, trends in eco-friendly products, and the market size for sustainable goods.

Academic Journals
Research Articles: Review articles from peer-reviewed journals that have explored the impact of environmental knowledge, attitudes, and green branding on consumer behavior.

Sample and Sampling Method
Target Population
Definition: The target population for this survey includes consumers who are potential buyers of eco-friendly products and have varying levels of awareness and attitudes toward environmental issues.
Characteristics:
Age: 18 years and older
Geographical Location: Diverse regions, with a focus on urban areas where eco-friendly products are more prevalent.
Demographics: Inclusive of various genders, education levels, and income brackets to ensure comprehensive analysis across different consumer segments.

Sample Size
Size Determination: The sample size is determined based on statistical power analysis to ensure sufficient data for reliable analysis.
Goal: Aim for a minimum of 300 respondents to provide a robust dataset that can support inferential statistics and ensure the generalizability of results.

Sampling Method

Sampling Technique

Stratified Random Sampling: This method involves dividing the target population into subgroups (strata) based on key demographic variables such as age, gender, and education level. Random samples are then drawn from each subgroup.

Alternative Sampling Technique

Convenience Sampling: If access to a diverse sampling frame is challenging, convenience sampling can be used, focusing on participants who are easily accessible, such as through online platforms and social media.

Result and Discussion

According to the results of general data description analysis, among the 145 subjects in the study, the ages were mainly concentrated in the range of 35-44 and 55 and above, accounting for 22.8% and 22.1% respectively. In terms of gender, the majority were Female, accounting for 66.2%, followed by Male, accounting for 33.8%. In terms of academic qualifications, the majority are Associate Degree, accounting for 35.9%, followed by High School, accounting for 29%; At the Income Level, Less than $20,000 and $20,000-$39,999 were the majority, accounting for 34.5%.

General Data Description Analysis

		Frequency	Percent
Age	18-24	24	16.6
	25-34	29	20
	35-44	33	22.8
	45-54	27	18.6
	55 and above	32	22.1
Gender	Male	49	33.8
	Female	96	66.2
Education Level	High School	42	29
	Associate Degree	52	35.9
	Bachelor's Degree	9	6.2
	Master's Degree	14	9.7
	Doctorate	12	8.3
	Other	16	11
Income Level	Less than $20,000	50	34.5
	$20,000-$39,999	50	34.5
	$40,000-$59,999	14	9.7
	$60,000-$79,999	16	11
	$80,000 and above	15	10.3

According to the scale dimension description analysis results, For brand familiarity, practice the importance of sustainable development, environmental protection brand information knowledge, looking for green initiative enthusiasm, to climate change and pollution evaluation, on the environmental impact of consumer goods, personal behavior on the environmental impact, authentication and labels, protecting the environment is the primary task, reduce the impact on the environment responsibility, the degree of environmental

protection policy support, individual action effect, The mean value of the possibility to buy environmentally friendly brands, the propensity to buy products, and the intention to buy are all above 3, and the maximum value is 5, indicating that the scores of these dimensions are relatively high.

Scale Dimension Description Analysis

	N	Minimum	Maximum	Mean	Std. Deviation
How familiar are you with brands that promote eco-friendly products?	145	1	5	3.740	1.328
How important is it for you to know about a brand's sustainability practices before making a purchas	145	1	5	3.210	1.013
I am aware of brands that are environmentally friendly.	145	1	5	3.280	1.090
I actively seek information about a brand's green initiatives before purchasing their products.	145	1	5	3.230	1.026
I trust brands that market themselves as green or eco-friendly.	145	1	5	3.280	1.090
How would you rate your knowledge of environmental issues such as climate change and pollution?	145	1	5	3.360	1.084
I understand the impact of consumer products on the environment.	145	1	5	3.320	1.086
I am aware of how my personal actions can impact the environment.	145	1	5	3.400	0.975
I know about the certifications and labels that indicate a product is environmentally friendly.	145	1	5	3.410	0.996
Protecting the environment is one of my top priorities.	145	1	5	3.420	1.005
I feel a personal responsibility to reduce my environmental impact.	145	1	5	3.400	0.982
I support policies and initiatives aimed at environmental conservation.	145	1	5	3.480	0.958
I believe that individual actions can make a significant difference in environmental protection.	145	1	5	3.430	0.999
I am likely to purchase products from brands that are known for being environmentally friendly.	145	1	5	3.540	0.928
I prefer to buy products from companies that demonstrate a commitment to sustainability.	145	1	5	3.340	0.908
I am willing to pay more for products that are eco-friendly.	145	1	5	3.480	0.987

Through the difference analysis of general data in purchasing decision, the results show that age (F=0.133, p > 0.05), gender (F=0.951, p > 0.05), educational background (F=1.216, p > 0.05) and income (F=0.971, p > 0.05) have no significant difference in purchasing intention. p > 0.05, no statistical significance.

Purchase Intention Difference Analysis

		I am willing to pay more for products that are eco-friendly.	F	p
Age	18-24	3.42±1.139	0.133	0.97
	25-34	3.55±0.948		
	35-44	3.55±0.905		
	45-54	3.41±1.152		
	55 and above	3.47±0.879		
Gender	Male	3.59±1.039	0.951	0.343
	Female	3.43±0.96		
Education Level	High School	3.52±0.833	1.216	0.305
	Associate Degree	3.54±0.959		
	Bachelor's Degree	3.44±0.882		
	Master's Degree	3.29±1.204		
	Doctorate	3.92±1.084		
	Other	3.06±1.181		
Income Level	Less than $20,000	3.48±1.015	0.971	0.425
	$20,000-$39,999	3.3±1.111		
	$40,000-$59,999	3.79±0.699		
	$60,000-$79,999	3.63±0.719		
	$80,000 and above	3.67±0.9		

According to the correlation analysis results, purchasing intention and enthusiasm for seeking green initiative information (r=0.234, p < 0.05), evaluation of climate change and pollution (r=0.272, p < 0.05), impact degree of consumer goods on environment (r=0.294, p < 0.05), impact degree of individual behavior on environment (r=0.383, p < 0.05), certification and labeling (r=0.378, p < 0.05), environmental protection is the primary task (r=0.424, p < 0.05), reducing the sense of responsibility for environmental impact (r=0.452, p < 0.05), environmental protection policy support (r=0.486, p < 0.05), the influence of personal action (r=0.483, p < 0.05), the possibility of buying environmental brands (r=0.371, p < 0.05), and the tendency to buy products (r=0.394, p < 0.05) had significant positive correlation, and the coefficient was below 0.5, and the correlation was generally low.

Correlation Analysis

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16
Q1	1															
Q2	.428**	1														
Q3	.333**	.483**	1													
Q4	0.121	0.162	.248**	1												
Q5	0.108	.313**	.222**	.447**	1											
Q6	.201*	.216**	.186*	.251**	.462**	1										
Q7	0.026	-0.042	.165*	.320**	.182*	.313**	1									
Q8	0.017	0	0.065	.283**	0.15	.218**	.461**	1								
Q9	0.044	0.081	.190*	.398**	.280**	.397**	.481**	.439**	1							
Q10	0.036	0.071	.204*	.189*	0.122	.211*	.447**	.380**	.404**	1						
Q11	0.022	-0.14	0.13	.206*	0.149	.288**	.340**	.427**	.400**	.363**	1					
Q12	0.029	-0.039	0.131	.262**	0.124	0.12	.369**	.372**	.338**	.451**	.465**	1				
Q13	0.16	0.082	.163*	.262**	.163*	.169*	.401**	.298**	.414**	.412**	.409**	.295**	1			
Q14	-0.058	-0.047	.207*	.197*	0.111	.212*	.320**	.256**	.412**	.475**	.392**	.389**	.365**	1		
Q15	0.035	0.035	0.107	0.154	0.107	.226**	.372**	.267**	.327**	.418**	.343**	.438**	.354**	.237**	1	
Q16	0.134	-0.017	0.14	.234**	0.147	.272**	.294**	.383**	.378**	.424**	.452**	.486**	.483**	.371**	.394**	1

NO	Name
Q1	How familiar are you with brands that promote eco-friendly products?
Q2	How important is it for you to know about a brand's sustainability practices before making a purchas
Q3	I am aware of brands that are environmentally friendly.
Q4	I actively seek information about a brand's green initiatives before purchasing their products.
Q5	I trust brands that market themselves as green or eco-friendly.
Q6	How would you rate your knowledge of environmental issues such as climate change and pollution?
Q7	I understand the impact of consumer products on the environment.
Q8	I am aware of how my personal actions can impact the environment.
Q9	I know about the certifications and labels that indicate a product is environmentally friendly.
Q10	Protecting the environment is one of my top priorities.

Q11	I feel a personal responsibility to reduce my environmental impact.
Q12	I support policies and initiatives aimed at environmental conservation.
Q13	I believe that individual actions can make a significant difference in environmental protection.
Q14	I am likely to purchase products from brands that are known for being environmentally friendly.
Q15	I prefer to buy products from companies that demonstrate a commitment to sustainability.
Q16	I am willing to pay more for products that are eco-friendly.

With purchase intention as the dependent variable, Familiarity with brands, importance of sustainable development practices, understanding of environmental brands, enthusiasm for finding green initiative information, trust in green brands, evaluation of climate change and pollution, impact of consumer products on the environment, impact of personal behavior on the environment, certification and labeling, environmental protection is the top priority, reducing the sense of responsibility for environmental impact, environmental protection policy support Multiple linear regression was performed on the independent variables, such as the influence of personal actions, the possibility of purchasing environmental brands, and the tendency to purchase products. According to the results, R2 was 0.447, indicating that the independent variable could explain 44.7% of the change of the dependent variable, indicating a relatively low degree of explanation. $F=6.953$, $p < 0.05$, indicating that the model passed the test and could be used. VIF values below 5 indicate that collinearity does not exist. Among the variables, only the degree of support for environmental protection policies ($B=0.247$, $p < 0.05$) and the influence of individual actions ($B=0.267$, $p < 0.05$) can significantly affect the purchase intention, indicating that the more support, the greater the impact of individual actions, the greater the impact on the purchase intention.

Regression Analysis

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(constant)	0.131	0.43		0.306	0.76	-0.719	0.982		
How familiar are you with brands that promote eco-friendly products?	0.069	0.057	0.093	1.217	0.226	-0.043	0.181	0.738	1.354
How important is it for you to know about a brand's sustainability practices before making a purchas	-0.115	0.085	-0.118	-1.349	0.18	-0.283	0.053	0.564	1.773
I am aware of brands that are environmentally friendly.	0.024	0.073	0.026	0.326	0.745	-0.121	0.169	0.653	1.531
I actively seek information about a brand's green initiatives before purchasing their products.	0.017	0.077	0.018	0.224	0.823	-0.135	0.17	0.666	1.501
I trust brands that market themselves as green or eco-friendly.	-0.014	0.075	-0.015	-0.186	0.853	-0.162	0.135	0.624	1.602
How would you rate your knowledge of environmental issues such as climate change and pollution?	0.127	0.076	0.139	1.676	0.096	-0.023	0.276	0.62	1.613
I understand the impact of consumer products on the environment.	-0.137	0.079	-0.151	-1.741	0.084	-0.292	0.019	0.573	1.746
I am aware of how my personal actions can impact the environment.	0.136	0.083	0.134	1.641	0.103	-0.028	0.299	0.643	1.555
I know about the certifications and labels that indicate a product is environmentally friendly.	0.024	0.088	0.024	0.277	0.782	-0.149	0.197	0.549	1.822
Protecting the environment is one of my top priorities.	0.088	0.085	0.09	1.034	0.303	-0.08	0.256	0.571	1.753
I feel a personal responsibility to reduce my environmental impact.	0.062	0.087	0.062	0.714	0.477	-0.111	0.236	0.566	1.768
I support policies and initiatives aimed at environmental conservation.	0.247	0.087	0.24	2.825	0.005	0.074	0.42	0.595	1.681
I believe that individual actions can make a significant difference in environmental protection.	0.267	0.081	0.27	3.29	0.001	0.106	0.427	0.636	1.573
I am likely to purchase products from brands that are known for being environmentally friendly.	0.059	0.088	0.055	0.666	0.506	-0.115	0.232	0.629	1.59
I prefer to buy products from companies that demonstrate a commitment to sustainability.	0.108	0.086	0.099	1.254	0.212	-0.062	0.278	0.683	1.463
R2	0.447								
F	6.953**								

Summary

Research Conclusion

The survey results demonstrate a generally positive attitude toward green brands and environmental responsibility among consumers, with significant influences on purchase intention stemming from personal beliefs and policy support. However, demographic factors did not significantly differentiate purchase intentions, indicating a broad base of support across various consumer segments. This insight can guide marketers in targeting and enhancing engagement strategies for promoting eco-friendly products.

Practical Inspiration

Based on the findings of this study, the following reference suggestions are provided for green marketing strategies:

(1)Empowering Enterprises with Digital Technology for Precision Marketing:Digital technology can improve a company's environmental performance. Under the "dual carbon" goal, enterprise marketing should achieve more returns with minimal resource investment. This is not only the development trend of enterprise marketing in a low-carbon environment, but also the basic requirement for enterprises to achieve maximum value. Precision marketing relies on technologies such as big data to directly reach target customers and reduce unnecessary resource investment. On the one hand, big data can help companies analyze consumer characteristics and preferences, and use user characteristics to make target customers precise. On the other hand, analyzing the future market development trends through big data can help enterprises effectively grasp market trends and avoid customer loss caused by market changes. In the Internet era, information can be customized completely according to the needs and concerns of the audience. Low cost investment not only reduces the waste of enterprises and public resources, but also brings higher output. Driven by the strategic decision of "dual carbon goals", people's consumption structure will undergo fundamental changes, and enterprises need to quickly complete digital transformation, which is an inevitable choice to achieve long-term green development of enterprises.

(2)Enhance enterprise green marketing awareness and improve green marketing strategies:Enterprises need to explore innovative and green marketing methods, and link behavior with corporate culture. Promoting its green value to employees is as important as marketing to consumers, so environmental value needs to be shared and communicated among various departments. To ensure that green marketing can play an important role, enterprises should transform their traditional marketing mix into more green actions. In terms of product strategy, green marketing oriented product strategies include environmentally responsible ingredients, recyclable or reusable packaging, etc., creating and delivering more low-carbon value to consumers through product attribute innovation. A pricing strategy that emphasizes environmental protection can use price positioning that reflects the ecological components of the product, as well as pricing schemes that attract target customers to support green initiatives. In distribution strategies, companies should collaborate with environmentally responsible channel partners and encourage end customers to return recyclable materials. Collaborating with suppliers and distributors to create a greener supply chain can reduce the impact of a company's distribution strategy on the environment. In terms of promotional strategies, the social responsibility of green and environmentally friendly enterprises resonates with consumer health concepts, thereby improving consumer brand fit and purchase intention.

(3)Strengthening innovation in low-carbon and green marketing communication: Social media can strengthen green communication and exchange by engaging in direct and open conversations with businesses about green products and services. Most consumers still face challenges in identifying green products, mainly due to the lack of green information labels that do not leave an impression on consumers. With the increasing importance of global green marketing, businesses and consumers urgently need to increase their understanding of green marketing practices.

To achieve innovation in low-carbon and green marketing communication, first of all, it is necessary to strengthen research on low-carbon consumer behavior, identify existing green and low-carbon consumer groups, and grasp the impact mechanism of low-carbon demands on consumer purchasing decisions, which is a prerequisite for achieving low-carbon marketing. Secondly, promote the greening of consumer preferences and the recycling of consumer resources at various touchpoints in the marketing process. Enhancing public awareness, promoting green lifestyles, cultivating green consumption awareness, and enhancing consumer understanding of the "dual carbon goals" are the foundation for consumers to transform their consumption patterns and accept green products. Finally, companies can shape a sustainable corporate brand image through carbon disclosure; Using carbon labels to give products a differentiated green image. Research has found that 70% of consumers are influenced by environmental information from advertisements and product labels. Therefore, marketers should emphasize clear and accurate information about green products or services to encourage consumers to choose green products and increase their knowledge of green products or services.

(4)Enhancing leadership skills in green transformation: Leaders may achieve organizational and social goals by instilling correct values in their employees and other followers, and green transformation leaders will drive the development of environmental sustainability and pro environmental behavior in the marketing value chain. In order to promote green marketing and enhance green leadership capabilities in enterprises, there is an urgent need to invest in green change leadership capabilities. The improvement of green leadership skills can be achieved by investing in green leadership training and seminars. In addition, business leaders should reward green behavior in the enterprise and marketing value chain, such as rewarding employees who demonstrate green behavior, providing discounts or distributing coupons to distributors and consumers who support green marketing. At the same time, business leaders should reasonably design a comprehensive carbon reduction roadmap, actively respond to the 2060 Zero Carbon Enterprise Action Initiative, and help achieve greenhouse gas emission reduction goals. This will help increase the practice of green behavior and green marketing for enterprises.

(5)Balancing profitability and corporate sustainable development goals:The profit goals of enterprises are not contradictory to environmental sustainability. Although some infrastructure and projects for green marketing may require more funding in the short term, the long-term impact will be higher product quality, customer satisfaction, and greater profits and social welfare. Balancing profitability and sustainable development goals requires companies to clarify the importance of sustainable development of their products and services, and to use it as a key indicator for business assessment. Incorporating green marketing into marketing strategies and corporate social responsibility plans is crucial for the sustainable development of society and the company, as it can have a positive impact on the company's green image. Investors need to view the environment as a major long-term investment opportunity, and marketers need to pay attention to the long-term benefits brought by this low-carbon and green movement. In the past few decades, the world has experienced significant economic growth and social change, but this growth has brought about corresponding ecological degradation. With the proposal of the "dual carbon target", the government and consumers are exerting social pressure on enterprises to achieve full process greening of products, production, etc. In this context, enterprises should take

advantage of the trend, predict and integrate green marketing strategies based on consumer characteristics, which is necessary for enterprises to enhance market competitiveness. Under the rapid development of the digital economy, enterprises should take digital technology as the lead to achieve sustainable technology marketing. In summary, this article reviews the dual carbon policy and theoretical literature, points out the practical background for enterprises to achieve low-carbon green marketing, and proposes development strategies for enterprise green marketing under the "dual carbon goal", providing reference for enterprises to achieve green marketing transformation.

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