



"The Role of Green Marketing in Achieving Sustainable Development: A Study on Eco-Friendly Companies in Egypt"

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ABSTRACT

A survey was used to collect data from 230 employees, who were randomly selected

This research seeks to explore the nature of the relationship between green marketing and the achievement of sustainable development in eco-friendly companies in Egypt. The study was conducted on a sample of Egyptian companies that adopt eco-friendly practices and integrate sustainability into their marketing strategies.

to ensure comprehensive representation of various categories within eco-friendly companies in Egypt, with the aim of understanding the impact of green marketing practices on both environmental and economic performance, based on employee perspectives.

The research focused on analyzing the impact of green marketing on the environmental and economic performance of these companies, as well as

determining the extent to which such practices are linked to achieving sustainable development goals. The results showed a significant positive correlation between the implementation of green marketing strategies and the achievement of sustainable development. The study proved that companies adopting green marketing improve their environmental performance and increase resource-use efficiency.

The findings also emphasize the importance of promoting green marketing as a core part of a company's strategy for achieving long-term sustainability. This approach enhances the company's commitment to environmental responsibility, improves its public image, and increases consumer trust in its products.

Introduction

The contemporary world is witnessing rapid changes and challenges in many areas, including increasing environmental pressures, rising societal awareness of environmental issues, and growing economic challenges such as resource scarcity and intensified competition. These changes require companies to adapt and adopt new concepts that meet customer needs while simultaneously addressing surrounding environmental challenges.

In light of these challenges, the concept of green marketing has emerged as a strategic approach enabling companies to interact with both market and environmental demands simultaneously. Green marketing does not only involve promoting eco-friendly products but also encompasses all stages of the production and distribution chain, including the selection of sustainable raw materials, low-impact manufacturing processes, and reducing carbon emissions. This approach enhances

companies' ability to balance economic growth with environmental responsibility. The renewable energy investment sector is considered one of the most crucial sectors in promoting environmental sustainability, due to its vital role in reducing dependence on traditional energy sources. In this context, Qalaa Holdings stands out as a leading model, focusing on the development of renewable and sustainable energy projects, reinforcing its commitment to sustainable development goals. This research aims to explore the relationship between green marketing and the achievement of sustainable development in the renewable energy investment sector, with a focus on Qalaa Holdings as a case study. The research will address the green marketing strategies adopted by the company, how these strategies have contributed to achieving sustainable development goals, and the impact of these practices on consumer attitudes and their interaction with eco-friendly products and services.

Following this introduction, the researcher presents the components of this study, which include: the study's concepts, previous studies, the study problem, study objectives, study hypotheses, the importance of the study, the study methodology, the theoretical framework, analysis of field study results and hypothesis testing, research findings, and finally, the recommendations. The presentation will proceed as follows:

First: Study Concepts

- **Green Marketing:**

Green marketing is defined as "a set of marketing activities that focus on the development and promotion of environmentally friendly products, while

minimizing negative environmental impacts and enhancing the environmental sustainability of business operations" (Alzghoul et al., 2024).

- **Sustainable Development:**

Sustainable development is defined as "development that aims to achieve a balance between environmental, economic, and social dimensions to ensure the needs of current and future generations are met" (Stoett et al., 2024).

Second: Previous Studies on the Independent Variable (Green Marketing)

Numerous studies have examined the topic of green marketing and its significance in achieving market success. Below are some key studies in this field:

1. **Study by Majid & Farooq (2024)** titled "*Impact of Green Marketing Strategies on Consumer Buying Behavior: The Moderating Role of Environmental Concerns in Pakistan*".

This study aimed to analyze the impact of green marketing strategies on organizational identity and innovation performance in medium and large enterprises. The findings revealed that green marketing enhances organizational identity, which, in turn, stimulates sustainable innovation. The study also discussed topics such as integrating sustainability into corporate culture, barriers to implementing green strategies, and the importance of stakeholder relationships. It emphasized the critical role of incorporating green marketing into strategic management to achieve innovation and enhance competitiveness.

2. **Study by Lima et al. (2024)** titled "*The Influence of Green Marketing on Consumer Purchase Intention: A Systematic Review*".

This study aimed to analyze the impact of green marketing on consumer purchase intentions. The findings revealed that, despite the growing consumer awareness of environmental issues, the adoption of sustainable practices faces challenges, such as the high cost of green products and the lack of clear information about them. Additionally, consumer resistance to paying higher prices limits the widespread adoption of these products. The study highlighted the need for more transparent and educational green marketing strategies to promote sustainable purchasing behavior.

3. **Study by Syafi'ah (2024)** titled *"Impact of Green Marketing Mediating Brand Love on Purchasing Decisions for Batik MSME Products in Central Java"*.

This study aimed to analyze the impact of green marketing as a mediator in the relationship between brand love and purchasing decisions in Batik micro, small, and medium enterprises (MSMEs) in Central Java. In an era where consumer awareness of sustainability is increasing, Batik companies in Central Java find themselves strategically positioned to leverage green marketing to enhance their competitiveness. The results revealed that brand love has a significant positive effect on purchasing decisions and that green marketing mediates the relationship between brand love and purchasing decisions among Batik MSMEs in Central Java. The study employed a mediation regression method to analyze the data and test the research hypotheses using SPSS, with a sample of 219 Batik consumers obtained through purposive random sampling.

4. **Study by Huynh et al. (2024)** titled *"The Impact of Institutional Pressures on Corporate Social Responsibility and Green Marketing Adoption: An Empirical Approach in the Vietnam Banking Industry"*.

This study aimed to analyze the impact of institutional pressures and corporate social responsibility (CSR) on the adoption of green marketing (GMA) and achieving relative competitive advantage (RCA) in Vietnam's banking sector. Using structural equation modeling (SEM) and analyzing data from 288 banking employees, the results indicated that components of institutional pressure significantly influence GMA and RCA, with variations in the level and type of impact. The study highlighted the mediating role of CSR, where institutional pressure drives companies to enhance their CSR activities, contributing to greater adoption of green marketing and competitive advantage.

5. **Study by Huang et al. (2024)** titled *"Impact of Green Marketing on Peer-to-Peer Accommodation Platform Users' Repurchase Intention and Positive Word-of-Mouth: Mediation of Trust and Consumer Identification"*.

This study aimed to examine the impact of green marketing on repurchase intention and positive word-of-mouth among consumers of peer-to-peer (P2P) accommodation platforms, focusing on the mediating role of trust and consumer identification with the platform. Using a questionnaire survey of 488 consumers in China, the findings revealed that consumers' perception of green marketing orientation increases their trust in the platform and identification with it, thereby enhancing repurchase intention and positive

word-of-mouth. Trust and identification were found to mediate the relationship between green marketing and the study outcomes. The results provide practical insights for developing effective green marketing strategies to promote sustainability and competitiveness in P2P accommodation platforms.

6. **Study by Singgalen (2024)** titled "*Toxicity and Social Network Analysis of Green Marketing Content for Electric Cars through Digital Media*". This study aimed to explore the effectiveness of green marketing strategies in enhancing consumer interest and purchasing behavior toward electric cars, using media coverage, such as BBC News, as an example. The study sought to understand how green marketing narratives in the media influence consumer perceptions and preferences within the context of sustainability. The CRISP-DM methodology was applied, with notable results derived from toxicity analysis and social network analysis (SNA). The toxicity analysis revealed varying levels of negativity, including toxicity (0.05645 to 0.99613) and personal attacks (0.00211 to 0.35185). The network analysis indicated a network with a diameter of 6, low density (0.009484), and high fragmentation (0.872000), reflecting the presence of disconnected communities.

Previous Studies on the Dependent Variable (Sustainable Development)

1. **Study by Sahoo et al. (2024)** titled "*Theoretical Framework for Assessing the Economic and Environmental Impact of Water Pollution: A Detailed Study on Sustainable Development of India*".

This study aimed to explore the relationship between water pollution and sustainable development, identifying water pollution as a major environmental challenge that threatens the sustainability of ecosystems, human health, and economic development. The methodology included a comprehensive review of literature on water pollution and sustainable development, focusing on its causes, impacts, and policy frameworks supporting sustainable water management. The findings emphasized the importance of public awareness and education in promoting sustainable practices to reduce water pollution, presenting effective strategies for sustainable water management that support environmental sustainability and socio-economic development.

2. **Study by Abulibde et al. (2024)** titled *"Navigating the Confluence of Artificial Intelligence and Education for Sustainable Development in the Era of Industry 4.0: Challenges, Opportunities, and Ethical Dimensions"*. This study aimed to explore the integration of artificial intelligence (AI) tools, such as ChatGPT, in education within the framework of Education for Sustainable Development (ESD), analyzing the transformative potential and ethical considerations associated with this integration. The findings revealed that AI integration in education can enhance the learning experience and better prepare students for the digital era. However, the study highlighted the need for new curricula designs and continuous learning strategies. It also identified gaps in the literature regarding the ethical implications and the impact of AI on ESD, calling for further research

and collaboration between academia and industry.

3. **Study by Ozili & Iorember (2024)** titled "Financial Stability and Sustainable Development".

This study aimed to investigate the impact of financial stability on achieving Sustainable Development Goals (SDGs) using a unique financial stability index and sustainable development index, along with four specific SDG indicators. Data from 26 countries between 2011 and 2018 were analyzed using the GMM method. The results showed that financial stability significantly influences sustainable development, with negative impacts observed in Asian countries. Regional comparisons revealed higher sustainable development indices in European and Asian countries compared to African countries. When analyzing individual SDG indicators, financial stability had a significant positive impact on SDG 3 (Good Health and Well-Being) but a negative impact on SDG 10 (Reduced Inequalities) in Asian countries, as well as on SDG 3 during periods of economic prosperity. Conversely, financial stability positively influenced SDG 3 and SDG 7 (Affordable and Clean Energy) in countries with high banking capital reserves. The findings suggest that the impact of financial stability on sustainable development depends on how sustainable development is measured.

4. **Study by Jia et al. (2024)** titled "*A Framework for Achieving Urban Sustainable Development Goals (SDGs): Evaluation and Interaction*".

This study aimed to assess the level of sustainable development and explore

the interactions between Sustainable Development Goals (SDGs) to enhance sustainability. A localized evaluation framework for urban sustainable development was proposed, with Shandong Province used as a case study to investigate spatial and temporal changes and goal alignment in sustainability. The results indicated a slight improvement in sustainable development levels in Shandong Province from 2011 to 2020, with a dual-center pattern comprising Jinan and Qingdao. The province performed relatively well in SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 9 (Industry, Innovation, and Infrastructure), and SDG 11 (Sustainable Cities and Communities). However, inconsistencies in sustainable development were observed, with significant variations among cities for the same goal. Weak interrelations between SDGs were also noted, with interactions being dynamic over time. The study concluded that analyzing sustainable development levels from multiple perspectives and promoting simultaneous development across multiple goals are essential for achieving urban sustainability.

5. **Study by Tan et al. (2024)** titled "*Toward Low-Carbon Sustainable Development: Exploring the Impact of Digital Economy Development and Industrial Restructuring*".

This study aimed to analyze the relationship between digital economy development and industrial restructuring and their roles in achieving low-carbon sustainable development. Using a regression model based on city-level data, the study explored how the digital economy impacts sustainable

development. The findings revealed that digital economy development directly promotes low-carbon sustainable development, a conclusion validated through robustness checks and correlation discussions. Additionally, industrial restructuring was found to be an effective mechanism driving the digital economy's impact on low-carbon sustainable development. The study provides empirical evidence on the environmental benefits of digital economy development and establishes a research framework linking these elements.

6. **Study by Lyulyov et al. (2024)** titled "*How Do E-Governance and E-Business Drive Sustainable Development Goals?*".

This study aimed to analyze the impact of digitalization, specifically e-governance and e-business, on achieving Sustainable Development Goals (SDGs) in European Union countries. Using a model based on error correction and generalized least squares methods, the study examined the effects and importance of e-governance and e-business in achieving SDGs. The results showed that e-governance indicators have a significant impact on achieving SDGs, and e-business indicators also demonstrated a positive influence, with some exceptions. The findings suggest that EU countries should continue to promote digitalization across all sectors, as it enhances transparency, accountability in business processes, and communication, while increasing trust in government services—key drivers for achieving SDGs.

Previous Studies Linking the Dependent Variable (Sustainable Development) with the Independent Variable (Green Marketing)

1. **Study by Soomro et al. (2024)** titled "*Going Green with the Green Market and Green Innovation: Building the Connection between Green Entrepreneurship and Sustainable Development*".

This study aimed to explore the role of the green market (GM) and green innovation (GI) in promoting green entrepreneurship (GE) and achieving sustainable development (SD), based on data from 192 knowledge-based firms in Pakistan. The findings revealed that green market elements, such as green products, design, supply chains, and production, have a positive and significant impact on entrepreneurship and sustainable development. Green innovation was shown to be a critical factor supporting these objectives, highlighting green entrepreneurship as a predictive element for sustainable development.

2. **Study by Huang et al. (2024)** titled "*Promoting Sustainable Development: Multiple Mediation Effects of Green Value Co-Creation and Green Dynamic Capability Between Green Market Pressure and Firm Performance*".

This study aimed to examine the impact of green market pressure exerted by customers and competitors on firm performance, considering the multiple mediating effects of green value co-creation and green dynamic capability. The findings revealed that green market pressure positively affects firm performance, while both green value co-creation and green dynamic capability individually mediate the relationship between green

market pressure and firm performance. Moreover, green value co-creation and green dynamic capability sequentially mediate this link. These results provide valuable insights into enhancing firm performance in the context of environmental protection.

3. Study by Thakkar (2022) titled *"Green Marketing and Sustainable Development: Challenges and Opportunities"*.

This study aimed to explore the concept and significance of green marketing, as well as the challenges and opportunities associated with adopting green marketing practices in the Indian market. Data was collected from multiple sources, including books, journals, websites, and newspapers, to highlight key issues related to green marketing adoption. The findings indicated that green marketing has become an essential phenomenon in modern markets, reflecting increased consumer awareness of environmental issues such as global warming and pollution. The study showed that companies are adopting green marketing strategies as a means to facilitate sustainable development, with expectations of continued growth in green marketing practices and demand in the future.

4. Study by Rathore (2022) titled *"Impact of Green Marketing on Sustainable Business Development"*.

This study aimed to explore the impact and importance of green marketing in business development, focusing on how companies leverage green marketing strategies to achieve a competitive advantage. Qualitative data was collected from multiple sources, including websites, books, journals,

and newspapers, to understand the importance of sustainable development through green marketing. The findings revealed that green marketing has become a necessity due to rising environmental awareness among consumers, leading to a significant shift in many brands and businesses. The study emphasized that green marketing significantly contributes to sustainable business development and is expected to grow with increased consumer awareness, positively influencing business sustainability.

5. **Study by Nath & Siepong (2022)** titled "Green Marketing Capability: A Configuration Approach Towards Sustainable Development". This study aimed to understand the factors influencing the success of companies in implementing green marketing practices, noting that outcomes vary among firms. The study proposed that Green Marketing Capability (GMC) is a key factor explaining these differences. Drawing on the resource-based and dynamic capability theories, a theoretical framework was developed to define and shape GMC, focusing on three research objectives: (1) What constitutes GMC? (2) How do firms differ in their GMC configurations? (3) How do these configurations lead to differences in green marketing performance? The findings revealed that firms can develop GMC through two approaches: green market sensing (involving learning and planning activities) and green market implementation (including marketing mix and multifunctional orientations). Based on GMC configurations, firms were categorized into three groups: opportunity seekers excelling in both capabilities,

conservative conformists lagging in both areas, and critical adopters moderately focused on activities. The study concluded that firms achieve optimal green marketing performance by adopting an opportunity-seeker strategy.

6. **Study by Ahmed & Qureshi (2021)** titled *"Green Marketing: A Door to Sustainable Development"*.

This study aimed to explore the importance of green marketing in modern markets, emphasizing its crucial role in influencing customer demand and product offerings. This phenomenon has increased customer satisfaction with products, leading to higher profitability for companies and promoting growth while focusing on sustainable environmental development. The findings highlighted that green marketing faces various challenges, with the study providing recommended strategies to overcome them. The study relied on secondary data collected from diverse sources, including research papers, articles, journals, conference proceedings, periodicals, textbooks, and online materials.

Through the review of previous studies, the researcher found the following:

- Most previous studies indicate that green marketing practices play a key role in enhancing environmental awareness among customers, contributing to the improvement of corporate image and increasing customer loyalty. They also emphasized that green marketing is essential for achieving a balance between business objectives and environmental conservation.
- Studies suggest that companies adopting green marketing strategies have a

better ability to adapt to changes in consumer needs, which helps meet the increasing demand for sustainable products and services.

- The studies confirm that green marketing contributes to achieving sustainable development by encouraging sustainable consumption and motivating companies to reduce their environmental impacts. It also aids in achieving economic and social objectives by providing sustainable options for customers.
- The studies show that the implementation of green marketing practices not only impacts the environment but also contributes to improving the financial performance of companies. They assert that customers who support sustainable brands are often willing to pay higher prices, which increases revenues.
- Studies indicate that integrating green marketing within comprehensive business strategies can lead to positive outcomes in terms of sustainable development, enhancing transparency and corporate social responsibility.

From the above, it can be concluded that green marketing represents an effective tool for achieving sustainable development, as it combines environmental, economic, and social objectives. This positive relationship reinforces the importance of adopting green marketing strategies as an essential part of the sustainable growth and development of businesses.

Third: Research Problem:

To define and formulate the research problem, the researcher conducted a pilot study by preparing an initial questionnaire for a convenient sample of 30 individuals

from employees of environmentally friendly companies in Egypt. The aim of this pilot study is to explore employees' opinions on the impact of green marketing practices on sustainable development.

The collected data was analyzed, and then the sample was divided according to the arithmetic mean into three groups: a group below the mean, a group representing the mean, and a group above the mean. This analysis can provide valuable insights into how green marketing impacts corporate performance in various areas. The results of these groups will be presented in Table (1) to facilitate understanding of the relationship between the variables.

Table (1)

**Results of Analyzing the Data of the Pilot Sample for the Study Variables
Based on the Arithmetic Mean and Perc**

Variables	Above the Mean	Neutral	Below the Mean
Green Marketing	59.1	10.1	30.8
Sustainable Development	52.8	16.7	30.5

Source: Prepared by the researcher based on the results of statistical analysis

From Table (1), it is evident that:

Through the analysis of the collected data as shown in Table (1), it is clear that:

- There is a decrease in the level of green marketing in environmentally friendly companies, with 59.1% of participants indicating that the level of green marketing in their companies is low. Meanwhile, 30.8% perceive an increase in the level of green marketing compared to the arithmetic mean of the sample, while 10.1% of participants are neutral.
- Regarding the dependent variable represented by sustainable development,

52.8% of participants feel there is a decrease in the level of sustainable development resulting from green marketing practices in the companies under study. Conversely, 30.5% believe that there is an increase in the level of sustainable development compared to the arithmetic mean of the sample, while 16.7% are neutral.

- Through the pilot study and review of previous studies, the researchers identified a research gap characterized by the scarcity of prior studies addressing the relationship between the study variables (green marketing and sustainable development) in the Egyptian environment, noting a significant decrease in the level of sustainable development as a result of green marketing practices from the participants' perspective.

Fourth: Objectives of the Study:

This study aims to achieve the following objectives:

- Identify the nature of the relationship between green marketing and sustainable development in environmentally friendly companies in Egypt.
- Measure the direct impact of green marketing practices on the level of sustainable development.
- Explore how green marketing influences consumers' attitudes towards environmentally friendly products and services.
- Evaluate the extent to which green marketing strategies are linked to achieving environmental, social, and economic objectives in the concerned companies.

Fifth: Research Hypotheses

To achieve the aforementioned objectives, the researcher has formulated the following hypotheses:

1. Main Hypothesis One:

"There is a significant correlation between green marketing practices and the dimensions of sustainable development in environmentally friendly companies in Egypt."

2. Main Hypothesis Two:

"There is a significant impact of the dimensions of green marketing on achieving sustainable development in environmentally friendly companies in Egypt."

This hypothesis branches into the following sub-hypotheses:

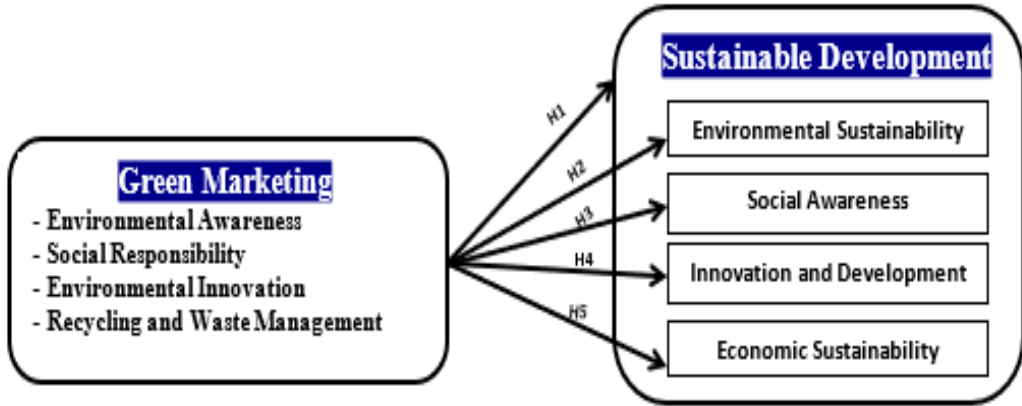
2-1: There is a significant impact of green marketing practices (environmental awareness, social responsibility, environmental innovation, and recycling and waste management) on environmental sustainability in environmentally friendly companies.

2-2: There is a significant impact of green marketing practices (environmental awareness, social responsibility, environmental innovation, and recycling and waste management) on social awareness in environmentally friendly companies.

2-3: There is a significant impact of green marketing practices (environmental awareness, social responsibility, environmental innovation, and recycling and waste management) on innovation and development in environmentally friendly companies.

2-4: There is a significant impact of green marketing practices (environmental awareness, social responsibility, environmental innovation, and recycling and

waste management) on economic sustainability in environmentally friendly companies.



"Figure 1: Proposed Model of the Study"

Sixth: Importance of the Study

The importance of this study is evident at both the scientific and practical levels as follows:

A. Scientific Importance:

- **Highlighting Green Marketing:** The study focuses on the concept of green marketing as one of the modern trends in marketing and explores its impact on achieving sustainable development in environmentally friendly companies.
- **Scarcity of Academic Studies:** To the best of the researcher's knowledge, there is a scarcity of Arabic academic studies that address the relationship between green marketing and sustainable development, making this study a significant contribution to the Arabic scientific literature.

- **Recommendations for Researchers:** The study offers recommendations for researchers and those interested in the field of marketing to explore global sustainable practices and analyze how they can be applied in the Egyptian context, thereby enhancing academic knowledge in this field.

B. Practical Importance:

- **Guiding Companies:** The study contributes to guiding environmentally friendly companies toward green marketing strategies that can enhance their environmental performance, leading to the achievement of sustainable development goals.
- **Improving Product Quality:** The study helps companies improve the quality of their products and services by applying the principles of green marketing, which reduces operational costs and increases profits. This contributes to enhancing sustainable competitiveness by minimizing waste and optimizing resource use, reinforcing the role of companies in achieving sustainable development goals.
- **Raising Awareness:** The study draws the attention of company officials to the importance of green marketing and how to benefit from it in improving the company's image and increasing consumer trust, contributing to enhancing commitment to sustainability and achieving sustainable development.

Seventh: Methodology of the Study

The researcher relied on the descriptive approach, which aims to interpret and accurately describe the phenomenon under study concerning the dimensions of the

study (green marketing and sustainable development) by analyzing and interpreting the relationships between the variables under study.

• **Types and Sources of Data:**

A. Secondary Data: The researcher collected relevant secondary data related to green marketing and sustainable development by reviewing scientific literature and previous studies published in conferences, journals, and websites, as well as master's and doctoral theses published and unpublished in various universities concerning the topic and variables of the study.

B. Primary Data: The researcher relied on designing a survey form distributed to employees of Qalaa Holdings to collect the necessary primary data.

• **Study Population and Sample:**

The study population consists of employees of Qalaa Holdings, which is a pioneering model in the field of green marketing and sustainable development, located in 6th of October City in Egypt. The study included only the employees of the company located in 6th of October City and did not include employees from other companies in other cities.

The sample size was determined at a commonly accepted confidence level in administrative research of 95%, with a standard error of 5% using the statistical formula for sample size determination. Based on statistical tables, the sample size was 230 individuals.

• **Data Collection Tool:**

The researcher developed a questionnaire as a tool for collecting data and information related to the study, which included 28 items, of which 12 pertained to

the variable of green marketing, and 14 to the variable of sustainable development.

The Questionnaire: Data was collected through a questionnaire distributed to a stratified random sample of employees of Qalaa Holdings; it included two types of information: the first being demographic information related to the research sample individuals, and the second concerning the main research variables. The "five-point Likert scale" was used in formulating the questionnaire items.

Table (2)

Five-Point Likert Scale

Degree	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
Weight	5	4	3	2	1

Eighth: The Theoretical Framework

In the following sections, we will discuss the research variables in terms of concept, historical development, dimensions, and metrics as follows:

- **Green Marketing**

Green marketing is defined as a set of marketing activities focused on developing, manufacturing, and promoting products and services that are environmentally friendly and contribute to environmental preservation. It aims to meet consumer needs while minimizing negative environmental impacts (Huang et al., 2024).

Green marketing began to emerge in response to environmental problems in the 1970s, as environmental awareness became a central concern for both companies and consumers. With the increasing prevalence of

environmental issues such as climate change, the importance of green marketing as a strategic approach has gained greater attention (Lima et al., 2024).

The effectiveness of green marketing can be measured through indicators such as consumer satisfaction with eco-friendly products, the increase in market share for green products, and the level of environmental awareness among consumers (Lima et al., 2024).

- **Traditional Marketing**

Traditional marketing is defined as the strategies and methods companies use to market their products and services, relying on established marketing factors such as price, distribution, and promotion. Traditional marketing primarily focuses on generating profits by satisfying consumer needs without considering environmental impacts. It is considered a model lacking environmental and social dimensions, making it inadequate in addressing contemporary environmental challenges (Batat, 2024).

- Based on the above, a comparison can be made between green marketing and traditional marketing as follows: (Tamilselvan, 2024)

Element	Traditional Marketing	Green Marketing
Focus	Focuses on achieving profit	Seeks to achieve profit while considering environmental and social dimensions
Products	Promotes traditional products without concern for sustainability	Focuses on sustainable and eco-friendly products
Values	Values are consumer-oriented	Values are directed towards environmental and social preservation

- **Dimensions of Green Marketing**

Green marketing has several dimensions, and the researcher has limited the study to the following dimensions due to the focus on the most impactful and relevant aspects for achieving the study's objectives. The researcher believes that these dimensions are most closely related to the research topic and contribute directly to the expected outcomes. Additionally, there are practical constraints related to time and available resources for the study, making it necessary to reduce the number of dimensions to ensure comprehensive and reliable analysis.

1. Environmental Awareness

Environmental awareness is one of the most critical dimensions of green marketing, aiming to increase consumers' knowledge about the importance of environmental conservation and sustainable practices. This includes providing information about the environmental impacts of products and

services, as well as encouraging individuals to adopt eco-friendly behaviors. Companies rely on marketing campaigns to raise awareness about the responsible use of natural resources and the reduction of pollution (Tao, 2024).

2. Social Responsibility

Social responsibility is another central dimension of green marketing, as companies demonstrate their commitment to society by taking actions to protect the environment and promote community well-being. This dimension emphasizes the ethical obligation of companies to minimize the environmental impact of their operations and engage the community in sustainability efforts (Udo et al., 2024).

3. Environmental Innovation

Environmental innovation is a key dimension of green marketing, referring to the development of new products and services that reduce environmental impact, such as using sustainable raw materials and less polluting production techniques. Environmentally innovative companies can stand out in the market by offering innovative solutions that promote sustainability and reduce the consumption of natural resources (Sharif, 2024).

4. Recycling and Waste Management

Recycling and waste management are practical and essential dimensions of green marketing. Companies aim to reduce the waste generated by their operations through recycling raw materials and adopting sustainable

production techniques. These strategies not only reduce environmental impact but also contribute to achieving economic savings (Hernandez et al., 2024).

- **Challenges of Green Marketing in Developing Countries and Egypt**

Developing countries, including Egypt, face significant challenges in adopting green marketing strategies, limiting their ability to transition toward more sustainable practices. One of the most prominent challenges is the lack of consumer awareness regarding the environmental and economic benefits of eco-friendly products. Despite increasing efforts to promote environmental culture, many consumers in these countries remain largely unaware of the importance of green products and their long-term positive impacts on the environment and their health (Lima et al., 2024). This lack of awareness leads to weak demand for such products, hindering their market penetration.

Additionally, the high cost of producing and marketing green products presents another barrier to adopting these practices. Companies require substantial investments in sustainable raw materials and environmentally friendly production technologies. These high costs result in elevated prices for green products compared to conventional ones, weakening the competitive edge of these companies, particularly in price-sensitive markets like Egypt (Hanh et al., 2024). This situation discourages many companies from adopting green marketing strategies out of fear of losing market share to competitors offering cheaper alternatives.

Moreover, developing countries face deficiencies in the infrastructure needed to support green marketing. For example, these countries lack adequate recycling

networks and renewable energy systems, which are fundamental to green marketing practices. Additionally, the advanced technologies required for sustainable production may be either unavailable or prohibitively expensive, further complicating companies' ability to adopt these practices (Hanh et al., 2024). This infrastructure gap not only hinders small and medium-sized enterprises but also poses challenges for larger companies attempting a complete transition to green marketing.

In addition to these challenges, weak legislative and governmental policy support exacerbates the situation. Companies require a favorable regulatory environment that provides incentives and removes financial and operational barriers to transitioning toward sustainability.

- **The Future of Green Marketing in Egypt**

Developing countries, including Egypt, face numerous challenges in adopting green marketing strategies on a wide scale. One of the most significant challenges is the lack of consumer awareness regarding the economic and environmental benefits of eco-friendly products. Despite the growing emphasis on sustainability, the majority of consumers in these countries remain unaware of the long-term advantages of these products, resulting in weak demand for them (Ali et al., 2019).

Additionally, the high cost of producing and marketing green products poses a substantial obstacle for companies. Green products require greater investments in sustainable raw materials and modern production technologies, which can affect the competitiveness of companies in price-sensitive markets such as those in developing countries (Babu et al., 2024).

Developing countries also lack the necessary infrastructure to support green marketing operations. For instance, access to clean energy sources or advanced recycling technologies, which are integral to green marketing practices, is often limited (Babu et al., 2024). This infrastructure gap makes it challenging for companies to implement green initiatives effectively

- **The Role of Green Marketing on the Environment**

Sustainable development is a pivotal concept in the pursuit of balancing economic, social, and environmental needs. It is defined as the process of meeting present needs without compromising the ability of future generations to meet their own. Sustainable development encompasses three main dimensions: the economic dimension, which focuses on achieving sustainable economic growth; the social dimension, which aims to ensure social justice and equality among individuals and communities; and the environmental dimension, which emphasizes protecting the environment and conserving natural resources (Raman et al., 2024).

The emphasis on sustainable development began at the United Nations Conference on Environment and Development in 1992 in Rio de Janeiro, where the importance of balancing economic growth with environmental protection was highlighted (Ozili & Iorember, 2024). Since then, global focus on sustainable development has grown, leading to the establishment of the United Nations Sustainable Development Goals (SDGs) in 2015. These goals aim to guide countries' efforts toward achieving comprehensive and integrated development.

The achievement of sustainable development can be measured through various indicators, including the sustainable GDP, which reflects economic performance

while accounting for environmental impacts; the Human Development Index (HDI), which assesses quality of life and well-being; and environmental quality indicators, which reflect the state of the environment (Ozili & Iorember, 2024). These dimensions and metrics underscore the importance of sustainable development in ensuring the well-being of individuals and communities in a sustainable manner (Sachs et al., 2020).

- **Sustainable Development**

Sustainable development is a pivotal concept in the pursuit of achieving a balance between economic, social, and environmental needs. It is defined as the process that meets the present's needs without compromising future generations' ability to meet their own, encompassing key dimensions that include the economic dimension, which focuses on achieving sustainable economic growth, the social dimension, which aims to ensure social justice and equality among individuals and communities, and finally, the environmental dimension, which emphasizes protecting the environment and conserving natural resources (Brundtland, 1987).

Interest in sustainable development began at the United Nations Conference on Environment and Development in 1992 in Rio de Janeiro, where the need for a balance between economic growth and environmental protection was emphasized (UN, 1992). Since then, there has been a growing global focus on sustainable development, leading to the development of the Sustainable Development Goals (SDGs) established by the United Nations in 2015, aimed at guiding countries' efforts toward achieving integrated and inclusive development.

The extent to which sustainable development is achieved can be measured through

multiple indicators, including sustainable Gross Domestic Product (GDP), which reflects economic performance while considering environmental impacts, the Human Development Index (HDI), which measures quality of life and well-being, in addition to environmental quality indicators that reflect the state of the environment (Sachs et al., 2019). These dimensions and measures reflect the importance of sustainable development in achieving individual and community welfare sustainably (Sachs et al., 2020).

- **Dimensions of Sustainable Development**

The dimensions of sustainable development that will be focused on include the following:

1. **Environmental Sustainability**

Environmental sustainability lies at the heart of sustainable development, focusing on conserving natural resources and ensuring their availability for future generations. It aims to minimize the negative impact of human activities on the environment by adopting practices such as pollution reduction, biodiversity conservation, and promoting the use of renewable energy (Udemba et al., 2024).

2. **Social Awareness**

Social awareness is a fundamental dimension of sustainable development, emphasizing social justice and the promotion of equality among all members of society. Its goal is to empower individuals and communities in decision-making processes and foster comprehensive social well-being, including improved living conditions and equal opportunities. The

significance of this dimension is evident in various global initiatives aimed at reducing poverty and discrimination, thereby contributing to the creation of more inclusive and sustainable societies (Urrila & Mäkelä, 2024).

3. Innovation and Development

Innovation and development serve as driving forces for achieving sustainable development. This dimension involves creating new technologies and solutions to address environmental, economic, and social challenges. Innovation enhances adaptability to changes and ensures long-term sustainable growth. In recent years, environmental and technological innovations have become integral to sustainability strategies in many companies and governments (Rossoni et al., 2024).

4. Economic Sustainability

Economic sustainability aims to balance economic growth with resource conservation to ensure ongoing development. This dimension focuses on building economies that support both current and future generations by fostering equitable and sustainable economic growth. It relies on investments in sustainable sectors such as renewable energy and green technology while reducing dependence on non-renewable resources (Qing et al., 2024).

Challenges of Sustainable Development in Developing Countries and Egypt

Developing countries, including Egypt, face significant challenges that hinder their efforts to achieve sustainable development. One of the most pressing issues is poverty, which acts as a major barrier to improving living standards and achieving

social welfare. Poverty limits individuals and communities from accessing essential resources and services such as education and healthcare (Kazem, 2022). Additionally, rapid population growth presents another challenge, as it places increased pressure on natural resources and infrastructure, necessitating more effective developmental strategies that balance population growth with the ability to meet societal needs (Almlund et al., 2022).

Furthermore, corruption plays a detrimental role in undermining the effectiveness of developmental policies. It weakens governments' capacity to implement transparent and equitable development projects and results in the mismanagement of financial resources (Bulkily et al., 2023). Overcoming these challenges requires coordinated efforts, including raising social awareness, improving governance, and implementing comprehensive policies that support sustainable development and enhance the quality of life in developing countries.

The Role of Sustainable Development in Serving Society and the Environment

Sustainable development significantly contributes to improving quality of life and promoting social justice. It aims to meet present needs without compromising the ability of future generations to meet their own. Through the adoption of comprehensive developmental strategies, sustainable development enhances the living conditions of the most vulnerable groups, thereby reducing social disparities and fostering equality. Furthermore, it plays a vital role in protecting the environment by encouraging the sustainable use of natural resources, which helps minimize waste and harmful emissions.

By promoting sustainable agricultural and industrial practices, sustainable

development achieves a balance between economic growth and environmental preservation, leading to the creation of new job opportunities and the enhancement of economic stability. It also fosters an environmentally conscious society, encouraging individuals and communities to make responsible choices that positively impact the environment. Ultimately, these efforts contribute to creating a healthy and sustainable environment that benefits both society and the planet, improving the quality of life for current and future generations (Ganesh & Venugopal, 2024).

Ninth: Testing Hypotheses and Analyzing Field Study Results

In this section, the researcher will conduct a descriptive analysis of the current research and then test the hypotheses to clarify the direct impact of green marketing dimensions on sustainable development dimensions. Statistical tests were performed using SPSS V.25, followed by a summary of the hypothesis testing results.

A: Descriptive Data Analysis

Descriptive analysis of the study data contributes to showing the relative importance of the study variables and dimensions through various descriptive analysis methods, as follows:

Descriptive Analysis of the Study Variables and Dimensions:

The results of the descriptive analysis of the study variables can be illustrated as shown in Table (5).

Validity and Reliability Coefficients:

The researcher conducted validity and reliability tests for the survey instrument to examine the extent to which the field study results can be generalized. The tests were

conducted as follows:

- **Validity Testing:** This represents an evaluation of the instrument used to ensure that it actually measures what it is intended to measure and that the phrases used convey the same meaning and concept to the respondent as intended by the researcher. The researcher performed descriptive validity tests to confirm that the measures are closely related to what is intended to be measured and that the research tool theoretically included all necessary variables. This was verified, and the initial survey was presented to some employees at Qalaa Holdings, an environmentally friendly company in Egypt, where modifications to some phrases were made based on their feedback.
- **Reliability Testing:** To measure the consistency of the survey instruments as a data collection tool, Cronbach's Alpha coefficient was calculated for the survey content. This was done to investigate the reliability of the field study results for generalization. The validity of the scale was also tested through apparent validity, which is the square root coefficient of the reliability coefficient.

Table (5): Validity and Reliability Coefficients for Research Variables

No.	Dimension	Number of Items	Reliability Coefficient (Alpha)	Apparent Validity
1	Independent Variable Dimensions (Green Marketing)			
	Environmental Awareness	3	0.617	0.785
	Social Responsibility	3	0.680	0.824
	Environmental Innovation	3	0.705	0.839
	Recycling and Waste Management	3	0.733	0.856
2	Dependent Variable Dimensions (Sustainable Development)			
	Environmental Sustainability	4	0.690	0.830
	Economic Sustainability	3	0.712	0.843
	Social Awareness	4	0.630	0.793
	Innovation and Development	3	0.692	0.831

Source: Prepared by the researcher based on statistical analysis results.

From Table (5), it is evident that the values of the reliability and validity coefficients are acceptable for all survey items. The survey included two main dimensions, with the first dimension comprising four aspects and the second dimension also consisting of four aspects presented in a five-point Likert scale, each containing multiple items. For the dimensions of green marketing, the Cronbach's Alpha coefficient ranged from 0.617 for the environmental awareness dimension to 0.733 for the recycling and waste management dimension.

As for the dimensions of sustainable development, the Cronbach's Alpha coefficients ranged from 0.630 for the social awareness dimension to 0.712 for the economic

sustainability dimension, indicating that they are within acceptable limits (Tavakol and Dennick, 2011). Therefore, a scale with internal consistency was reached, providing confidence in the results. It is also evident that the apparent validity values for all used measures fall within acceptable ranges, indicating that the phrases in the measurement tool accurately represent the domain intended to be measured.

Descriptive Analysis of Study Variables: The results of the descriptive analysis for the study variables are illustrated in Table (6) below:

Table (6): Results of the Descriptive Analysis for Measuring Study Variables

Variables	Statements	Mean	Standard Deviation	Skewness	Kurtosis
First: Green Marketing:					
Environmental Awareness	Effective environmental awareness programs are implemented within the company.	3.89	0.799	-0.101	-0.824
	All employees have sufficient knowledge of environmental awareness practices.	3.96	0.882	-0.521	-0.548
	Environmental awareness is a fundamental part of the company's culture.	4.15	0.678	-0.438	-0.770
Social Responsibility	Social responsibility programs positively impact the company's reputation.	3.68	1.131	-0.284	-1.092
	Sufficient resources are invested in social responsibility projects.	4.13	0.806	-0.530	0.436
	Employees actively participate in social activities organized by the	4.38	1.103	-0.593	-0.750

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Variables	Statements	Mean	Standard Deviation	Skewness	Kurtosis
	company.				
Environmental Innovation	Clear strategies exist to promote environmental innovation within the company.	3.55	1.045	-0.610	-0.379
	Proposals for environmental innovations are supported by management.	3.89	1.230	0.017	-1.042
	Environmental innovations contribute to improving the company's performance.	3.91	0.903	-0.612	0.451
Recycling and Waste	Effective recycling and waste management systems are in place within the company.	3.96	0.882	-0.521	-0.548
	Employees understand the importance of recycling in reducing environmental impact.	4.13	0.806	-0.530	0.436
	Incentives are provided to employees for participating in recycling efforts.	3.75	1.127	-0.138	-0.549
Second: Sustainable Development					
Environmental Sustainability	The company strives to preserve the environment and reduce its environmental impact.	3.74	1.045	-0.683	-0.385
	Environmental sustainability strategies impact customer satisfaction.	3.75	1.127	-0.138	-0.549
	The company achieves its	3.94	0.767	-1.077	1.121

Variables	Statements	Mean	Standard Deviation	Skewness	Kurtosis
	environmental sustainability goals.				
	The company is committed to sustainable environmental practices.	3.34	1.162	-0.175	-0.873
Economic Sustainability	Sustainability positively impacts the company's financial performance.	4.10	0.876	-0.768	0.054
	The company achieves sustainable profits through environmental practices.	3.89	0.846	-0.476	-0.583
	The company maintains a balance between economic sustainability and business requirements.	3.65	1.095	0.207	-0.951
Social Awareness	Employees possess sufficient social awareness regarding environmental issues.	3.75	1.165	-0.305	-0.842
	Social awareness programs influence employee behavior.	3.66	1.436	-0.658	-0.541
	Social awareness contributes to enhancing the company's commitment to social responsibility.	3.92	1.109	-0.649	0.102
	The company interacts positively with the local	3.79	0.805	-0.834	0.780

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Variables	Statements	Mean	Standard Deviation	Skewness	Kurtosis
	community on social awareness issues.				
Innovation and Development	Innovation impacts the improvement of the company's environmental performance.	3.65	1.095	0.207	-0.951
	Products and services are developed with environmental considerations in mind.	4.10	0.876	-0.768	0.054
	Innovation plays a significant role in promoting sustainability within the company.	3.92	1.109	-0.649	0.102

Source: Prepared by the researcher based on statistical analysis results

It is evident from the results in Table (6) that:

- The statistical analysis results indicate that all statements used to measure each variable follow a normal distribution, with skewness values ranging between (± 3), and kurtosis values ranging between (± 10).
- The mean values for all statements across all variables ranged between (3.34 to 4.38), where the third statement for the environmental sustainability dimension recorded the lowest mean value of (3.34), while the third statement for the social responsibility dimension recorded the highest mean value of (4.38).

Descriptive Analysis of the Research Variables

The researcher calculated some descriptive statistics (means and standard deviations) for the opinions of the sample of electronic banking service clients regarding the dimensions of green marketing, as shown in Table 7.

Table 7: Descriptive Analysis of Sample Opinions on the Dimensions of the Independent Variable (Green Marketing)

No.	Dimensions of Green Marketing	Mean	Standard Deviation
1	Environmental Awareness	3.853	0.696
2	Social Responsibility	4.019	0.663
3	Environmental Innovation	3.943	0.741
4	Recycling and Waste Management	3.940	0.732

Source: Prepared by the researcher based on statistical analysis results.

Regarding the dimensions of green marketing, it is evident from Table 7 that the average opinions of the research sample exceeded the general average of the scale (3 points). The mean for the dimension of environmental awareness was 3.853, with a standard deviation of 0.696. The mean opinion of the research sample on the dimension of environmental innovation was 3.943, with a standard deviation of 0.741. Meanwhile, the average for continuous improvement was 3.940 with a standard deviation of 0.732, indicating that the opinions ranged from neutral to agree. The mean opinion of the research sample on the dimension of social responsibility was slightly higher, reaching 4.019 with a standard deviation of 0.663, indicating that the opinions were slightly above the level of agree.

Table 8: Descriptive Analysis of Sample Opinions on the Dimensions of the Dependent Variable (Sustainable Development)

No.	Dimensions of Sustainable Development	Mean	Standard Deviation
1	Environmental Sustainability	3.906	0.746
2	Economic Sustainability	3.866	0.725
3	Social Awareness	3.890	0.716
4	Innovation and Development	3.885	0.716

Source: Prepared by the researcher based on statistical analysis results.

Concerning the dimensions of sustainable development, Table 8 shows that the average opinions of the research sample exceeded the general average of the scale (3 points). The mean for the dimension of environmental sustainability was 3.906, with a standard deviation of 0.746. The mean opinion of the research sample on the dimension of economic sustainability was 3.866, with a standard deviation of 0.725. The average opinion regarding the dimension of social awareness was 3.890, with a standard deviation of 0.716, and finally, the results indicated that the average opinions on the dimension of innovation and development reached 3.885 with a standard deviation of 0.716, indicating that the average opinions of the research sample ranged from neutral.

B: Hypothesis Testing and Result Analysis

The study hypotheses were tested as follows:

Testing the First Hypothesis: which states that: "There is a significant correlation between the dimensions of green marketing and the dimensions of sustainable development in environmentally friendly companies in the Arab Republic of Egypt." To test this hypothesis, the researcher used Pearson correlation coefficient to

determine the type and strength of the relationship between the dimensions of green marketing and the dimensions of sustainable development. Table 9 presents the statistical analysis results for this relationship:

Table 9: Pearson Correlation Coefficients between Dimensions of Green Marketing and Dimensions of Sustainable Development

Dimensions of Green Marketing	Dimensions of Sustainable Development
	Environmental Sustainability
Environmental Awareness	R = 0.721**
	Sig. = 0.000
Social Responsibility	R = 0.491**
	Sig. = 0.000
Environmental Innovation	R = 0.829**
	Sig. = 0.000
Recycling and Waste Management	R = 0.686**

- Pearson correlation coefficients at a significance level of 0.01

Source: Prepared by the researcher based on statistical analysis results.

Table No. (9) shows the following:

1. There is a significant correlation between all dimensions of green marketing and environmental sustainability as one of the dimensions of sustainable development at a significance level of 0.01. The results show that environmental innovation has the highest correlation with a correlation coefficient of 0.829, followed by environmental awareness with a correlation coefficient of 0.721, then recycling and waste management with a correlation coefficient of 0.686, and finally social responsibility with a correlation coefficient of 0.491. All of these correlation coefficients are

- significant and positive, ranging from moderate to strong.
2. There is a significant correlation between all dimensions of green marketing and economic sustainability as one of the dimensions of sustainable development at a significance level of 0.01. The results indicate that environmental innovation has the highest correlation with a correlation coefficient of 0.840, followed by environmental awareness with a correlation coefficient of 0.688, then recycling and waste management with a correlation coefficient of 0.661, and finally social responsibility with a correlation coefficient of 0.494. All of these correlation coefficients are significant and positive, ranging from moderate to strong.
 3. There is a significant correlation between all dimensions of green marketing and social awareness as one of the dimensions of sustainable development at a significance level of 0.01. The results show that environmental innovation has the highest correlation with a correlation coefficient of 0.787, followed by environmental awareness with a correlation coefficient of 0.711, then recycling and waste management with a correlation coefficient of 0.787, and finally social responsibility with a correlation coefficient of 0.483. All of these correlation coefficients are significant and positive, ranging from moderate to strong.
 4. There is a significant correlation between all dimensions of green marketing and innovation and development as one of the dimensions of sustainable development at a significance level of 0.01. The results show that environmental innovation has the highest correlation with a correlation

coefficient of 0.768, followed by environmental awareness with a correlation coefficient of 0.712, then recycling and waste management with a correlation coefficient of 0.690, and finally social responsibility with a correlation coefficient of 0.490. All of these correlation coefficients are significant and positive, ranging from moderate to strong.

Based on the previous statistical results, it is evident that there is a significant correlation between all dimensions of green marketing and all dimensions of sustainable development at a significance level of 0.01.

From the above, the researcher believes that there is a strong and significant relationship between the dimensions of green marketing and the dimensions of sustainable development. This is reflected in the fact that all dimensions of green marketing are positively and significantly correlated with dimensions of sustainable development, indicating that green marketing practices significantly contribute to the promotion of sustainable development in environmentally friendly companies in Western Egypt.

The researcher also notes, through the statistical results, the existence of a significant correlation between the dimensions of green marketing and one of the dimensions of sustainable development, which is "environmental sustainability," at a significance level of 0.01. "Environmental innovation" stands out as the most correlated among these dimensions, with a correlation coefficient of 0.829, indicating its significant role in enhancing environmental sustainability. Following this, "environmental awareness" has a correlation coefficient of 0.721, reflecting the importance of spreading environmental awareness to achieve this sustainability.

Then comes "recycling and waste management" in the third position with a correlation coefficient of 0.686, providing strong evidence of the role of these practices in conserving resources and reducing waste. Finally, "social responsibility" has a correlation coefficient of 0.491, indicating its role, but it is less impactful compared to the other dimensions.

The researcher concludes that these results demonstrate that green marketing, with its multiple dimensions, has a significant positive impact, making it an essential part of the strategies of companies striving to achieve effective environmental sustainability.

Regarding economic sustainability, the results showed that all dimensions of green marketing have a significant correlation at the 0.01 level with this dimension of "sustainable development." Once again, "environmental innovation" topped the list of the most correlated dimensions with a correlation coefficient of 0.840, confirming that environmental innovations are not only beneficial for the environment but also significantly contribute to achieving sustainable economic benefits. Next is the dimension of "environmental awareness" with a correlation coefficient of 0.688, meaning that enhancing environmental awareness positively impacts economic performance. Following that, the dimension of "recycling and waste management" has a correlation coefficient of 0.661, highlighting the role of these practices in enhancing economic efficiency through better resource management. Lastly, the dimension of "social responsibility" recorded a correlation coefficient of 0.494, indicating that its role in achieving economic sustainability is lower than that of the other dimensions.

As for the relationship between green marketing and social awareness as one of the dimensions of sustainable development, there is a significant correlation at the 0.01 level. As in previous results, here "environmental innovation" leads with a correlation coefficient of 0.787, indicating that innovation in environmental products and services plays a pivotal role in enhancing social awareness. Environmental awareness comes in second with a correlation coefficient of 0.711, underscoring the importance of campaigns and programs that enhance environmental knowledge and awareness in society. Following that, the dimension of recycling and waste management has a correlation coefficient of 0.787, reflecting the role of these practices in raising awareness of environmental issues. Finally, the dimension of social responsibility has a correlation coefficient of 0.483, which is lower compared to the other dimensions.

Lastly, regarding innovation and development, the results revealed a significant correlation at the 0.01 level between the dimensions of green marketing and innovation and development as one of the dimensions of sustainable development. Here, "environmental innovation" once again ranks first with a correlation coefficient of 0.768, confirming that innovative environmental practices contribute to enhancing innovation and development in companies. "Environmental awareness" follows in second place with a correlation coefficient of 0.712, indicating that raising awareness of environmental issues encourages companies to adopt new technologies and practices. Meanwhile, recycling and waste management recorded a correlation coefficient of 0.690, reflecting the role of these practices in improving innovation within institutions, while "social responsibility" was last with the least

impact at a correlation coefficient of 0.490, though it still plays a positive role in this context.

Based on the previous results, the researcher believes that there is a significant and positive correlation between all dimensions of green marketing and dimensions of sustainable development. "Environmental innovation" appears to be the most impactful dimension in all aspects, confirming that companies that innovate in the environmental field significantly contribute to achieving sustainable development at the environmental, economic, and social levels. Therefore, companies should intensify their efforts in the areas of environmental innovation and awareness to achieve a greater impact on sustainable development, while focusing on recycling and social responsibility as supportive factors in achieving sustainable goals.

Testing the Second Hypothesis:

Which states: "There is a significant effect of green marketing dimensions on achieving sustainable development from the perspective of employees in environmentally friendly companies in the Arab Republic of Egypt under study."

From this hypothesis, the following sub-hypotheses emerge:

2-1. There is a significant effect of green marketing dimensions on environmental sustainability from the perspective of employees in environmentally friendly companies in the Arab Republic of Egypt under study.

2-2. There is a significant effect of green marketing dimensions on economic sustainability from the perspective of employees in environmentally friendly companies in the Arab Republic of Egypt under study.

2-3. There is a significant effect of green marketing dimensions on social awareness from the perspective of employees in environmentally friendly companies in the Arab Republic of Egypt under study.

2-4. There is a significant effect of green marketing dimensions on innovation and development from the perspective of employees in environmentally friendly companies in the Arab Republic of Egypt under study.

The second hypothesis discusses whether there is a significant effect of green marketing dimensions on achieving sustainable development from the perspective of employees in environmentally friendly companies in the Arab Republic of Egypt under study, stating that "there is a significant effect of green marketing dimensions on achieving sustainable development from the perspective of employees in environmentally friendly companies in the Arab Republic of Egypt under study."

To test this hypothesis, the researcher initially used simple regression analysis due to its ability to indicate the effect of an independent variable on a dependent variable. Simple regression analysis was conducted at a significance level of 5%, and the researcher presents the results of this analysis regarding the impact of green marketing as a whole on the level of sustainable development as a whole as a depend

Table 10

Results of Simple Regression Analysis of Overall Marketing Agility on Overall Sustainable Development in Environmentally Friendly Companies in the Arab Republic of Egypt

Dependent Variable	Independent Variable	Regression Coefficient	t-value	Significance	p-value
Sustainable Development	Green Marketing	0.448	9.234	Significant	0.000
Correlation Coefficient: R = 0.694		Coefficient of Determination: R² = 0.482			
Variance: F = 49.635		Significance: p = 0.000			

Source: Statistical Analysis Results.

From Table 10, we can conclude the following:

- There is a significant effect of the dimensions of green marketing on achieving sustainable development in environmentally friendly companies in the Arab Republic of Egypt. The results of the simple regression analysis demonstrate the validity of the model used to explain the relationship between green marketing and sustainable development, as indicated by the F value of 49.635 at a significance level of 0.000, which is below the 5% significance threshold. This indicates that the model used in the analysis is valid for explaining the relationship between "green marketing" as the independent variable and "sustainable development" as the dependent variable.
- Additionally, the correlation coefficient (R) between "green marketing and sustainable development" was found to be 0.694, suggesting a strong

positive correlation between the two variables. Furthermore, the coefficient of determination (R^2) was 0.482, meaning that green marketing explains approximately 48.2% of the variations occurring in the level of sustainable development. In other words, 48.2% of the improvements or changes in sustainable development within environmentally friendly companies can be attributed to green marketing practices.

- The researcher believes that these results indicate that green marketing is a significant and influential factor in achieving sustainable development, as it directly contributes to supporting the environmental, economic, and social dimensions of companies. However, approximately 51.8% of the changes in sustainable development remain unexplained by green marketing, suggesting that other factors may also contribute to this change and should be considered to enhance sustainable development outcomes.
- To further clarify and illustrate the importance of the dimensions of green marketing in influencing overall sustainable development, the researcher conducted a multiple regression analysis of the effects of the dimensions of green marketing as independent variables on overall sustainable development, as shown in Table 11.

Testing Sub-Hypothesis 2-1, which states:

"There is a significant effect of the dimensions of green marketing on environmental sustainability as one of the dimensions of sustainable development from the perspective of employees in environmentally friendly companies in the Arab Republic of Egypt."

To test the validity of this hypothesis, the researcher employed multiple regression analysis. Table 11 illustrates the results of this statistical analysis as follows:

Table 11

Regression Coefficients for the Relationship Between Dimensions of Green Marketing and Environmental Sustainability

Independent Variable Dimensions (Green Marketing)	Dependent Variable	Unstandardized Coefficients	Standardized Coefficients	(t)	Sig.
Constant	Environmental Sustainability	0.038			
		0.178	0.213	0.831	
Environmental Awareness		0.158	0.147	2.631**	0.009
Social Responsibility		0.061	0.054	1.315	0.190
Environmental Innovation		0.578	0.575	10.726**	0.000
Recycling and Waste Management		0.186	0.182	3.664**	0.000
F = 155.7**	Sig. = 0.000				
Significant at 0.01		Coefficient of Determination (R ²) = 0.735			

1. The significance of the estimated regression model was statistically confirmed at the 0.01 significance level, with an F value of 155.7 and a significance level (p-value) of 0.000. Based on this, the sub-hypothesis (2-1) is accepted, indicating that the dimensions of green marketing collectively

have a significant impact on environmental sustainability as one of the dimensions of sustainable development.

2. There is a significant effect of some dimensions of green marketing on environmental sustainability as one of the dimensions of sustainable development from the perspective of employees in environmentally friendly companies in the Arab Republic of Egypt.
3. For environmental awareness, the unstandardized regression coefficient was 0.158, with a standardized regression coefficient (Beta) of 0.147. The t-value was 2.631 at a significance level of 0.009, indicating a significant effect of environmental awareness on environmental sustainability.
4. For social responsibility, the unstandardized regression coefficient was 0.061, and the standardized regression coefficient (Beta) was 0.054, with a t-value of 1.315 at a significance level of 0.190, indicating that this dimension does not significantly impact environmental sustainability.
5. Regarding environmental innovation, it had the largest effect, with an unstandardized regression coefficient of 0.578 and a standardized regression coefficient (Beta) of 0.575. The t-value was 10.726 at a significance level of 0.000, demonstrating that environmental innovation has a strong and significant impact on environmental sustainability.
6. For recycling and waste management, the unstandardized regression coefficient was 0.186, with a standardized regression coefficient (Beta) of 0.182. The t-value was 3.664 at a significance level of 0.000, indicating that this dimension has a significant effect on environmental sustainability.

7. Additionally, the coefficient of determination (R^2) was 0.735, indicating that 73.5% of the changes occurring in environmental sustainability can be explained by the dimensions of green marketing represented by environmental awareness, environmental innovation, and recycling and waste management. A small portion of the changes remains unexplained by these dimensions, suggesting the presence of other factors that may affect environmental sustainability.

Overall, the researcher concludes that environmental innovation and recycling and waste management have the most significant and important effects on enhancing environmental sustainability, while social responsibility appears to have a lesser impact according to the results of this analysis

Testing the Second Hypothesis (2/2)

The second hypothesis states: "There is a significant effect of green marketing dimensions on economic sustainability as one of the dimensions of sustainable development from the perspective of employees in environmentally friendly companies in the Arab Republic of Egypt."

To test this hypothesis, the researcher utilized multiple regression analysis. Table 12 presents the results of this statistical analysis as follows:

Table 12

**Regression Coefficients for the Relationship Between Green Marketing
Dimensions and Economic Sustainability**

Independent Variable Dimensions (Green Marketing)	Dependent Variable	Unstandar- d Coefficients	Standardized Coefficients	(t)	T	Sig.
	Economic Sustainability	B	Standard Error of Estimate	Beta		
Constant		0.149	0.174		0.858	0.392
Environmental Awareness		0.064	0.059	0.062	1.101	0.272
Social Responsibility		0.087	0.045	0.079	1.908	0.058
Environmental Innovation		0.645	0.053	0.660	12.28 5**	0.000
Recycling and Waste Management		0.146	0.049	0.147	2.952* *	0.003
F = 154.7**	sig. = 0.000					
R ² = 0.733						

Source: Prepared by the researcher based on the statistical analysis results

The analysis of Table 12 reveals the following:

1. The regression model is statistically significant at the 0.01 significance level, with an F-value of 154.7 and a sig(P-value) of 0.000. Therefore, the second hypothesis (2-2) is accepted, indicating that the dimensions of green marketing collectively have a significant effect on economic sustainability as one of the dimensions of sustainable development.
2. Regarding environmental awareness, the unstandardized regression

coefficient is 0.064, and the standardized coefficient (Beta) is 0.062, with a T-value of 1.101 at a significance level of 0.272. This indicates that environmental awareness does not have a significant effect on economic sustainability.

3. For social responsibility, the unstandardized coefficient is 0.087, and the standardized coefficient (Beta) is 0.079, with a T-value of 1.908 and a significance level of 0.058. Although this result is close to an acceptable significance level, it is not significant enough to have a notable effect on economic sustainability.
4. Environmental innovation demonstrated a strong significant effect, with an unstandardized coefficient of 0.645, a standardized coefficient (Beta) of 0.660, and a T-value of 12.285 at a significance level of 0.000. This indicates that environmental innovation is a significant factor influencing economic sustainability.
5. For recycling and waste management, the unstandardized coefficient is 0.146, the standardized coefficient (Beta) is 0.147, and the T-value is 2.952 at a significance level of 0.003. This indicates that this dimension also has a significant effect on economic sustainability.
6. Finally, the R^2 value is 0.733, which means that approximately 73.3% of the changes occurring in economic sustainability can be explained by the dimensions of green marketing.

From the above, the researcher believes that these results reflect the importance of environmental innovation and recycling and waste management in influencing

economic sustainability, while social responsibility and environmental awareness have a lesser impact in this context.

Testing the Third Hypothesis (2/3)

The third hypothesis states: "There is a significant effect of green marketing dimensions on social awareness as one of the dimensions of sustainable development from the perspective of employees in environmentally friendly companies in the Arab Republic of Egypt."

To test this hypothesis, the researcher utilized multiple regression analysis. Table 13 presents the results of this statistical analysis as follows:

Table 13

Regression Coefficients for the Relationship Between Green Marketing Dimensions and Social Awareness

Independent Variable Dimensions (Green Marketing)	Dependent Variable	Unstandardized Coefficients	Standardized Coefficients	(t)	T	Sig.
	Social Awareness	B	Standard Error of Estimate	Beta		
Constant		0.251	0.186		1.348	0.179
Environmental Awareness		0.181	0.063	0.176	2.892**	0.004
Social Responsibility		0.057	0.049	0.063	1.167	0.244
Environmental		0.469	0.056	0.486	8.341**	0.000

The Role of Green Marketing in Achieving Sustainable Development

Independent Variable Dimensions (Green Marketing)	Dependent Variable	Unstandardized Coefficients	Standardized Coefficients	(t)	T	Sig.
Innovation						
Recycling and Waste Management		0.219	0.053	0.223	4.129**	0.000
F = 123.2**	sig. = 0.000					
R² = 0.687						

Source: Prepared by the researcher based on the statistical analysis results

The analysis of Table 13 reveals the following:

1. The regression model is statistically significant at the 0.01 significance level, with an F-value of 123.2 and a sig(P-value) of 0.000. Therefore, the third hypothesis (2-3) is accepted, indicating that the dimensions of green marketing collectively have a significant effect on social awareness as one of the dimensions of sustainable development.
2. Regarding environmental awareness, the unstandardized coefficient is 0.181, and the standardized coefficient (Beta) is 0.176, with a T-value of 2.892 at a significance level of 0.004. This result indicates a significant effect of environmental awareness on social awareness, reflecting the importance of this dimension in enhancing awareness among individuals and employees in companies.
3. For social responsibility, the unstandardized coefficient is 0.057, and the

standardized coefficient (Beta) is 0.063, with a T-value of 1.167 and a significance level of 0.244. These results indicate that social responsibility did not demonstrate a significant effect on social awareness, warranting a reassessment of this dimension's role in the context of the research.

4. Environmental innovation exhibited a strong significant effect, with an unstandardized coefficient of 0.469, a standardized coefficient (Beta) of 0.486, and a T-value of 8.341 at a significance level of 0.000. This indicates that environmental innovation is a key factor in enhancing social awareness.
5. For recycling and waste management, the unstandardized coefficient is 0.219, the standardized coefficient (Beta) is 0.223, and the T-value is 4.129 at a significance level of 0.000. These results indicate that this dimension also has a significant effect on social awareness, reflecting its importance in promoting social and environmental values among individuals.
6. The R^2 value is 0.687, which means that approximately 68.7% of the changes occurring in social awareness can be explained by the dimensions of green marketing.

From the above, the researcher believes that these results reflect the importance of environmental awareness, environmental innovation, and recycling and waste management in influencing social awareness, while social responsibility has a lesser impact in this context

Testing Sub-Hypothesis 4 (2/4)

The hypothesis states:

"There is a significant effect of green marketing dimensions on innovation and development as one of the dimensions of sustainable development from the perspective of employees in environmentally friendly companies in Egypt."

To test the validity of this hypothesis, the researcher employed multiple regression analysis, and Table (14) illustrates the results of this statistical analysis as follows:

Table (14)

Regression Coefficients for the Relationship Between Green Marketing Dimensions and Innovation and Development

Green Marketing Dimensions	Dependent Variable	Unstandardized Coefficients	Standardized Coefficients	(T)	T	Sig.
	Innovation and Development	B	Standard Error of Estimate	Beta		
Constant		0.243	0.190	1.276	0.203	
Environmental Awareness		0.202	0.064	0.196	3.144**	0.002
Social Responsibility		0.070	0.050	0.065	1.412	0.159
Environmental Innovation		0.420	0.058	0.435	7.297**	0.000
Recycling and Waste Management		0.235	0.054	0.240	4.333**	0.000
F=114.9**	sig. =0.000		Significant at 0.01			
R ² = 0.671						

Source: Prepared by the researcher based on statistical analysis results

Observations from Table (14):

1. The regression model is statistically significant at the 0.01 level, with a calculated F-value of (114.9) and sig(P-value=0.000). Therefore, the sub-hypothesis (2-4) is accepted, indicating that the green marketing dimensions collectively have a significant effect on innovation and development as a dimension of sustainable development.
2. **Environmental Awareness:** The unstandardized coefficient is 0.202, the standardized coefficient (Beta) is 0.196, and the T-value is 3.144 with a significance level of 0.002. This result indicates a significant effect of environmental awareness on innovation and development, highlighting the importance of this dimension in promoting innovation.
3. **Social Responsibility:** The unstandardized coefficient is 0.070, the standardized coefficient (Beta) is 0.065, and the T-value is 1.412 with a significance level of 0.159. These results suggest that social responsibility does not demonstrate a significant effect on innovation and development, warranting a reassessment of this dimension's role in the research context.
4. **Environmental Innovation:** This dimension demonstrated a strong significant effect, with an unstandardized regression coefficient of 0.420, a standardized coefficient (Beta) of 0.435, a T-value of 7.297, and a significance level of 0.000. This indicates that environmental innovation is a key factor in promoting innovation and development.
5. **Recycling and Waste Management:** The unstandardized coefficient is 0.235, the standardized coefficient (Beta) is 0.240, and the T-value is 4.333

with a significance level of 0.000. These results also suggest that this dimension has a significant effect on innovation and development, reflecting its importance in fostering innovation.

6. **R² Coefficient:** The value is 0.671, which means that approximately 67.1% of the changes in innovation and development can be explained by the green marketing dimensions.
7. The results indicate that environmental awareness, environmental innovation, and recycling and waste management play vital roles in influencing innovation and development, while social responsibility appears to have less impact in this context.

Interpretation of the Results:

In light of the above statistical analysis results, it is evident that the impact of green marketing dimensions, particularly environmental innovation, recycling and waste management, and environmental awareness, has a significant and positive effect on innovation and development. This suggests that these dimensions play a crucial role in enhancing companies' capacities for sustainable innovation and development.

1. **Environmental Innovation:** It is one of the most significant factors contributing to improving processes and products, thereby increasing the company's efficiency and its ability to adapt to environmental and market changes.
2. **Recycling and Waste Management:** These practices contribute to cost reduction and enhance operational efficiency, leading to overall improved performance and increased competitiveness for companies.

3. **Environmental Awareness:** It acts as a lever to promote an environmental culture among employees, positively impacting innovative tendencies within the company.

Based on these findings, it can be concluded that adopting green marketing dimensions enhances companies' sustainability and innovation capabilities, contributing to achieving sustainable development goals. Environmentally friendly companies should focus on developing these dimensions and integrating them into their strategies to achieve sustainable success in changing markets.

Conclusion:

Based on the previous results, it is clear that there is a significant positive effect of green marketing across its various dimensions—especially environmental innovation, recycling and waste management, and environmental awareness—on all dimensions of sustainable development (environmental sustainability, economic sustainability, social awareness, innovation, and development). However, social responsibility did not show a significant effect in most models. Consequently, the second hypothesis of the study, which states "**There is a significant effect of green marketing dimensions on achieving sustainable development from the perspective of employees in environmentally friendly companies in Egypt,**" is confirmed. Thus, we accept the second hypothesis, which indicates a statistically significant positive effect of green marketing dimensions on achieving sustainable development from the perspective of employees in environmentally friendly companies in Egypt.

Results and Recommendations

1. Summary of Results:

The researcher focused on understanding the relationship between green marketing and sustainable development, specifically applied to the customers of environmentally friendly companies in the Arab Republic of Egypt. The researcher reached several findings, which can be outlined as follows:

- The statistical results proved a significant correlation between the dimensions of green marketing (environmental innovation, recycling and waste management, environmental awareness) and environmental sustainability as one of the dimensions of sustainable development. Environmental innovation was found to have the highest impact, followed by recycling and waste management, and then environmental awareness. However, the dimension of social responsibility did not show a significant effect.
- The results showed that environmental innovation and recycling and waste management positively and significantly affect economic sustainability as one of the dimensions of sustainable development, while the dimensions of social responsibility and environmental awareness did not show a significant impact on economic sustainability.
- The results demonstrated a significant and positive impact of flexibility, recycling and waste management, and environmental awareness on social awareness as one of the dimensions of sustainable development, while the dimension of social responsibility did not show a significant effect.

- The findings indicated that environmental innovation, recycling and waste management, and environmental awareness positively and significantly influence innovation and development as one of the dimensions of sustainable development, whereas the dimension of social responsibility did not show a significant effect in this context.
- Environmental innovation and recycling and waste management emerged as the most impactful dimensions across all aspects of sustainable development (environmental sustainability, economic sustainability, social awareness, and innovation and development), with environmental awareness following in terms of impact, while social responsibility did not demonstrate a significant effect in most cases.
- These results underscore the importance of focusing on enhancing environmental innovation and recycling and waste management in green marketing strategies to improve the overall performance of companies and ensure sustainable development.

II. Discussion of Results:

- The results of this study align with previous studies that emphasized the importance of adopting green marketing strategies to enhance environmental, social, and economic sustainability. These strategies assist companies in adapting to environmental changes, thereby enhancing their innovation capacity and improving their market performance. For instance, focusing on environmental innovation and waste management strengthens the effectiveness of green marketing strategies, contributing to reducing

environmental impact and achieving sustainable development.

- Additionally, the results of this study are consistent with previous studies that confirmed the impact of green marketing on improving corporate image and building customer loyalty. Environmental awareness strategies and product innovation enhance customers' perception of the environmental value of these companies, leading to improved relationships between companies and customers and increased levels of trust and loyalty.
- The findings also highlight the importance of raising social awareness among customers regarding the benefits of green marketing, which supports the idea of sustainable adoption. Environmental awareness contributes to changing customer behavior toward more sustainable choices, thereby increasing demand for environmentally friendly products and services.
- Finally, the results emphasize the necessity for companies to invest in research and development to improve their environmental practices, leading to enhanced overall performance and increased competitiveness in the market, thus effectively supporting sustainable development.

III. Recommendations and Implementation Mechanisms:

In light of the findings of this research, the researchers would like to conclude by presenting a set of recommendations and placing them for implementation as follows:

A. Recommendations for Management of Environmentally Friendly Companies in the Arab Republic of Egypt:

- **Enhance Green Marketing Strategies** to improve the effectiveness of environmental operations and contribute to sustainable development, which can be achieved by:
 - **Developing Marketing Campaigns:** Invest resources in developing marketing campaigns that focus on the benefits and features of environmentally friendly products.
 - **Continuous Improvement:** Establish interdisciplinary teams to monitor developments in green marketing strategies and adopt best practices.
 - **Training and Awareness:** Provide training courses for employees on the importance of green marketing and how to apply it effectively.
- **Encourage Sustainable Innovation** within companies to achieve a competitive advantage in the market, which can be done through:
 - **Innovation Programs:** Launch programs that encourage the development of new products and services that consider sustainability.
 - **Feedback Analysis:** Utilize customer and consumer feedback to enhance environmental products and services.
 - **Use of Technology:** Employ new technologies to improve production processes and reduce waste.
- **Promote Environmental Awareness** among customers and the community to encourage a shift toward environmentally friendly products and services, which can be achieved by:
 - **Awareness Programs:** Organize awareness campaigns for consumers regarding the benefits of sustainable products and their positive impact on

the environment.

- **Collaboration with Environmental Organizations:** Build partnerships with organizations working in the environmental field to enhance green marketing efforts.
- **Providing Incentives:** Offer incentives to consumers purchasing environmentally friendly products, such as discounts or loyalty programs.
- **Develop Effective Monitoring and Evaluation Strategies** for the environmental impact of marketing activities, which can be achieved by:
 - **Defining Environmental Indicators:** Establish indicators to measure the environmental impact of green marketing activities.
 - **Conducting Periodic Assessments:** Carry out periodic assessments to measure success in achieving environmental objectives.
 - **Preparing Reports:** Prepare annual reports outlining the environmental impact of adopted strategies.

B. Recommendations for Researchers on Future Studies:

- **Expand the Research Scope** to include other sectors related to green marketing.
- **Investigate the Impact of Green Marketing on Customer Behavior and Satisfaction**, including analyzing how consumers interact with sustainable brands.
- **Explore New Dimensions of Green Marketing**, such as social innovation and its impact on sustainable development.
- **Conduct Experimental Studies** to assess the impact of changes in green marketing strategies on companies' environmental performance.
- **Compare Study Results among Environmentally Friendly Companies in Different Countries** to understand cultural and economic differences and their impact on green marketing.

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