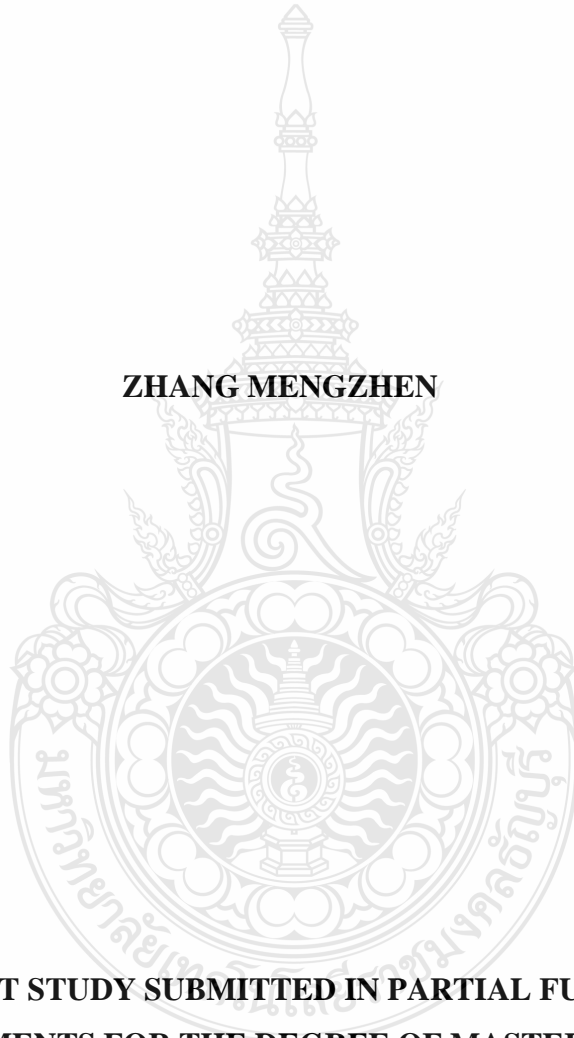


**RELATIONSHIP BETWEEN THE GREEN MARKETING MIX AND
PURCHASE INTENTION OF COSMETIC PRODUCTS**

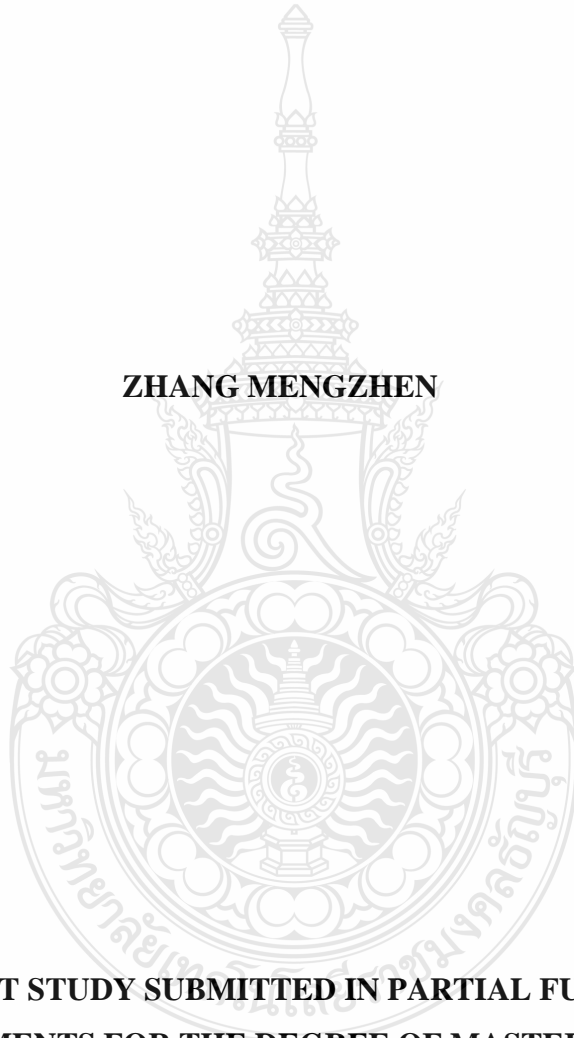
ZHANG MENGZHEN



**AN INDEPENDENT STUDY SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS
ADMINISTRATION PROGRAM IN GENERAL MANAGEMENT
FACULTY OF BUSINESS ADMINISTRATION
RAJAMANGALA UNIVERSITY OF TECHNOLOGY THANYABURI
ACADEMIC YEAR 2023
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Academic Year	2023

ABSTRACT

The purpose of this study was to investigate the relationship between green marketing mix dimensions and purchase intention for cosmetic products among young consumers in China.

The sample group used in this study comprised 400 young consumers in China, recruited using a convenient random sampling method and data were collected using a standardized questionnaire. The statistics used to analyze data were descriptive statistics, mean comparison, one-way ANOVA, and Pearson's correlation coefficient.

The study results found that all four dimensions of green marketing, namely green product (0.163), green price (0.610), green promotion (0.699), and green place (0.412), had a statistically significant and positive correlation with consumers' purchase intention. These results have significant implications for marketing managers and policy makers in the cosmetic industry, as they highlight the importance of implementing effective green marketing strategies to promote environmental conservation and increase purchase intention.

Keywords: green marketing mix, marketing strategy, cosmetic products

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Zhang Mengzhen

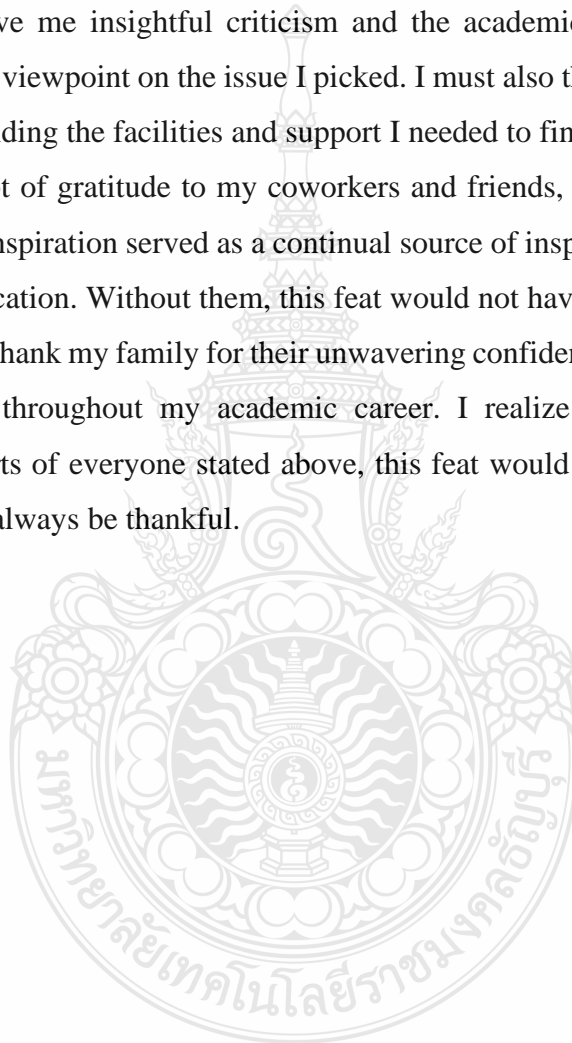


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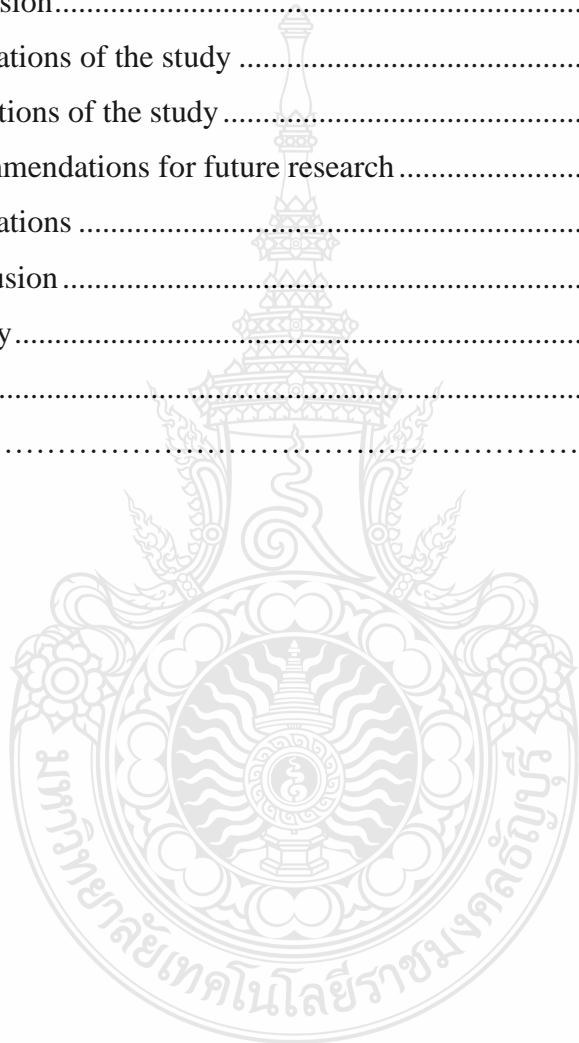
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CHAPTER 1

INTRODUCTION

1.1 Background and Statement of the Problems

The corporate landscape is rapidly evolving. It is essential for a company's competitiveness and success that it meet the needs and wants of its target market and adapt to the realities of the market. Green advertising features items and services that are friendly to the environment (Choudhary & Gokarn, 2013). The focus of green marketing is to establish a connection between environmental protection, companies, and consumers. cosmetic companies are forced to put in place green practices, as consumers are developing consciousness about protecting the environment. The managers of the cosmetic industry are keen on promoting their products worldwide to get long term business profits (Pereira de Carvalho & Barbieri, 2012). But with the increasing need to conserve the environment, buyers tend to be more selective of the products they purchase. This factor highly influences the purchase intention of cosmetic products.

The period of huge advancements and improved knowledge regarding technology is fast evolving and consumers, especially those of cosmetic products are gaining awareness about the environment. Such progress is being documented in almost every region of the globe. Pollution, global warming, and the disposal of materials that cannot be broken down by natural processes are just a few examples of the environmental repercussions that have reached epidemic proportions (Velvizhi et al., 2020). This has resulted to most companies and consumers focusing their interest in switching to green products. The promotion of ecologically friendly goods or services has been referred to as "green marketing." It is a marketing idea that considers customers' environmental concerns. By satisfying consumer demand for ecologically friendly goods and services, green marketing helps businesses grow their revenue and profitability. Unlike traditional marketing, green marketing emphasizes a product's positive impact on the environment. It is a strategy for fostering client loyalty and developing a competitive edge. Green marketing may help businesses stand out from rivals and grow their market share by emphasizing the environmental advantages of their products (Gelderman et al., 2021). Green marketing aids businesses in minimizing their environmental impact. Companies

may lessen their influence on the environment by marketing goods that use recycled materials or are energy efficient. Green marketing also motivates businesses to take initiative in their attempts to lessen their influence on the environment.

Businesses are increasingly adopting digital platforms like social media to promote eco-friendly goods and services. Green marketing mixes are having a significant impact on the cosmetics industry as evidence suggests they influence consumer purchasing decisions. This study aims to investigate how much influence the green marketing mixes have had on buying intention of cosmetic products, the disadvantages, and advantages, and how the situation can be managed.

The notion of a "green market" has been around since the 1980s, thus it has been there for a long. Business that prioritizes environmental sustainability in their product development, pricing, marketing, and distribution is said to be operating in a "green market." When done well, green marketing may meet the demands of both society and consumers while also generating a profit for the company (Dangelico & Vocalelli, 2017). For green marketers, it's all about making sure money changes hands in a way that's good for Mother Nature. Green marketing is sometimes known as eco-marketing, sustainable marketing, or responsible advertising. The importance of environmental concerns has grown as awareness of them has increased. Business investments in goods designed to better people's lives throughout the globe cannot be divorced from the need to safeguard the planet's natural resources. Green marketing must include game-changing shifts that benefit both the environment and people and society (Sirmon et al., 2007).

The main purpose of green marketing is to help businesses respond to the environmental impacts of their product's manufacturing, design, packaging, labeling, use, and disposal. Many company heads and CEOs believe that eco-friendly advertising may increase their bottom line. Studies show that consumers are willing to pay a premium for eco-friendly products that can be recycled (Prakash & Pathak, 2017). Companies who don't care about the environment will likely lose business if they don't start treating it like it's important. It's becoming clearer that environmental opportunities extend beyond green marketing to include the creation and selling of green technologies to public and private sector clients.

Future environmental conditions may provide the biggest ever window of opportunity for innovation and business. More and more businesses are seeing that being green, or at least adopting green marketing, may open up a number of promising doors. A corporation that wants to "become green" may find that it has to reinvest the savings into growing the business. An organization may enhance its cost structure and competitive standing via green marketing by increasing its resource efficiency (Moravcikova et al., 2017). As a bonus, it helps a business stand out from the competition by letting it provide novel items or improve upon existing ones to give more value to customers. As a result, the business can attract new types of customers, increase client retention rates, and strengthen its standing in the market. Producing eco-friendly goods now costs less money and has less of an effect on the natural world. Companies are incorporating green pricing strategies throughout their product lines and offering consumers rebates and other savings on eco-friendly products. Like green enterprises, green areas are gaining in favor. Consumers are searching for establishments that provide environmentally friendly products, and the government has given preference to "green" businesses (Smith & Brower, 2012).

The beauty products market is one of the fastest growing in the global economy. This market is fast-paced, science-driven, and a cutting-edge industry. (Opaciuk & Oboda, 2013) define cosmetics as "any material or combination used for the purpose of cleaning, altering the look of, perfuming, protecting, and preserving the exterior portions of the human body" (including the hair, lips, nails, and epidermis). Sustainability in terms of both environmental and social impact must be prioritized by businesses operating in this sector. Cosmetics firms under increasing pressure to meet consumer expectations as more consumers move their focus to ethical sourcing and responsible production methods. When competing in a market where consumers place a premium on variety and results, cosmetics manufacturers must design long-lasting products to succeed. Over time, the chemical ingredients used in this industry have the potential to harm waterways; animal testing is unethical because it exposes animals to allergens that can cause death; the business's use of natural resources is unsustainable; and pollution (both air and plastic) has caused significant damage to the environment (Jaini et al., 2020).

Traditional marketing involves promotion of goods or services via mediums such as radio, television, billboards. The main aim of traditional marketing is to create awareness of a brand and increase demand of the product. The techniques used in traditional marketing do not generate significant results most of the time due to the lack of transparency on what works best for every consumer segment. Green Marketing focuses on environmentally friendly techniques. Green marketing focuses on creating awareness about a product by promoting it. Consumers are advised or encouraged to make environmentally conscious decisions when purchasing commodities.

Marketing mix, also referred to as the four Ps of marketing, is a combination of price, promotion, product, and place. Marketing strategies are developed around these four factors to promote branding, sales and profitability (Kumar & Ghodeswar, 2015). The marketing mix promotes sustainability throughout the marketing process. Green products (eco-friendly) goods are those that, over the course of their whole lifespan, use fewer natural resources and have a smaller ecological footprint. Labeling and packaging are also considered while making a green product. The cost of green products is often greater than that of conventional ones because reflects the added cost of a modified production, packaging and disposal process. Green promotion is mandated to communicate to its consumers, substantial environmental information, that have meaningful links to corporate activities. Thus, it requires support from all corporate activities for it to be successful. Finally, Green Place (green distribution) is responsible for managing logistics to reduce emissions during transportation.

The intention to purchase cosmetics products is mainly driven by effectiveness and sustainability of a product. In general, consumer decision to buy a product is influenced by social, psychological, cultural, personal and economic factors (Mirabi et al., 2015). Understanding why consumers make their purchasing decisions is most crucial in marketing. Consumers of cosmetic products are becoming more and more interested in the green marketing mixes. Since customers see green products as being ecologically benign and advantageous for the environment, their popularity is rising. Also, many people tend to prefer more natural cosmetic products. Customers are also seeking items with a smaller environmental effect since they are becoming more aware of how their purchases affect the environment.

1.2 Purpose of the study

There is a need to embrace the use of environmentally friendly products in daily lives. Cosmetic products are highly engaged with the environment from the point of sourcing ingredients to disposal of the product or its packaging. It is a concern and the need to promote sustainability in the cosmetic industry is regarded highly necessary (Bom et al., 2019). All sectors in the business are responsible for ensuring the cosmetic industry preserves the environment through the production, distribution, and use and disposal process. This study focuses mainly on green marketing mixes regarding how they influence purchase decision of cosmetic products. This study will be able to outline how the marketing mixes are implemented, without compromising the key aim of green marketing, which is, environmental conservation. Understanding the relationship between marketing strategies and the decision to buy a product is very important to marketing managers to ensure continuity of sales.

1.3 Research objectives

The general objective for this study is to determine the relationship between green marketing mixes and purchase intention of cosmetic products.

Specific objectives for this study are:

1. To find different impact on demographic characteristics and purchase intention to find out significant differences in the purchase intention of cosmetic products by gender, between age group, education, occupation, and income
2. To investigate the relationship between green marketing mix dimensions and purchase intention for cosmetic products among young consumers in China.

1.4 Research Questions

The main research questions for the study, influence of green marketing mixes on purchase intention of cosmetic products, include:

RQ 1: Does green product affect a customer's purchase intention of a cosmetic product?

RQ 2: Does green price influence a customer's purchase intention of a cosmetic product?

RQ 3: Does green promotion impact a customer's purchase intention of a cosmetic product?

RQ 4: Does green place (distribution) influence a customer's purchase intention of a cosmetic product?

1.5 Research scope

This study aims at defining the influence of green marketing mixes on purchase intention of cosmetic products. The research will outline the green marketing mixtures as well as elaborate on possible influential factors that impact purchase intentions. A wide range of individuals across the world use cosmetic products of different kinds and origins. This study aims at investigating different groups of individuals to find out whether green marketing mixes would affect their decision to buy a certain cosmetic product and to what extent does any of the marketing mixes influence purchase intention. The study sample size will be determined by using a suitable sample size determination technique based on the known amount of information about the population. The selected sample will ensure there is no bias in whichever aspect, inclusivity of all factors and able to give a clear representation of the population.

The study will apply a mixture of quantitative and qualitative research designs. However, it is possible to quantify qualitative responses using value labels. This will enable the application of quantitative analysis of collected data. The variables for this study are grouped in two categories: independent variables and the dependent variable. An independent variable, also referred to as input or predictor variable is the variable that is not affected by other variables in the study. It is manipulated by the researcher and is the causal variable. On the other hand, a dependent variable or explanatory variable is the variable that relies on other factors (independent variables). In research, it is presumed to have the effect (Leatham, 2012). The independent variables for this study are green promotion, green product, green price and green placement (the 4Ps of green marketing). The dependent variable is purchasing intention.

1.6 Definition of terms

The definitions below provide a good understanding of the key words used in this research paper.

Green marketing – this refers to the act of developing and promoting (advertising) products by referencing their perceived or real contribution in conserving the environment (Kangis, 1992).

Marketing mix – this refers to multiple areas of interest as a section of a comprehensive marketing strategy. Marketing place mostly refers to common grouping that started off as the four Ps, that is, price, product, placement, and promotion. A marketing plan is often drawn from these four factors (Išoraitė, 2016).

Cosmetics – These are substances and items designed to be ingested or topically applied (sprayed, rubbed, poured, or sprinkled) to the human body to enhance, purify, or alter one's physical appearance. Some examples of cosmetics include hair care and skin care products, makeup, toothpaste, and deodorants (Baros & Baros, 2020).

Environmental sustainability – it is the responsibility of having to conserve natural resources and preserve global ecosystems to promote health and wellbeing of society, at the moment and even in the future. Environmental sustainability could also be defined as responsible interaction with the environment to prevent degradation or depletion of natural resources (Morelli, 2021).

Purchase intention – this describes the extent to which a customer is willing to and inclined towards buying a particular product from a company or seller within a certain time span, mostly over the next six months to a year. It is also referred to as buyer intent.

1.7 Conceptual framework

A conceptual framework explains the expected relationship between variables and defines study objectives as well as maps out how the variables draw conclusions. That is, a conceptual framework basically describes how research is to be conducted by exploring the research variables and developing insights from the same. The framework explores the current situation on how purchase intention of cosmetic products is influenced by environmental factors. The study aims to describe the extent to which green marketing mixes can influence a person's purchase intention of cosmetics products. Also,

the research will investigate whether or not there exist any associations between the independent variables or the marketing mixes (that is; green promotion, green product, green pricing and green placement). The joint effect of all the four variables on the independent variable, purchase extent will also be determined.

The input variables, that is, marketing mixes, are measured using various indicators. It is not suitable to use just one indicator for any of the mixes because that will not portray deeper insight into how the marketing mix would influence purchase intention. The domain of green promotion is measured by the following factors; whether or not a company sets a special day for the environment, training customers on proper use of cosmetic products so as to conserve the environment, holding conferences and seminars for training on environmental conservation and supporting environmental centers. The product component of green marketing mix is measured by; amount of pollution caused by the production process and the final product, percentage of adverse effects on human beings, whether the products are tested on animals. Green placement or distribution is measured using these factors; existence of separate agents from those of conventional products, ease of delivery and clean storage space for the cosmetic products. Finally, measures for green pricing are proportionality to quality, existence of a price difference between green and conventional products, and effect of higher prices on customers' purchasing capacity. The extent of approval, for all the factors mentioned above, gives a good indication of a consumer purchasing or not purchasing cosmetic products.

A couple of conclusions to be drawn from this study revolve around maintaining environmental sustainability, innovating cosmetic industries so as to meet the ever-changing consumer needs and to improve marketing capability so that a firm is able not only to retain its buyers but also attract new buyers. These aspects will be evaluated broadly but in line with the green marketing mixes. A better understanding of this study's conceptual framework can be achieved by studying the diagram below.

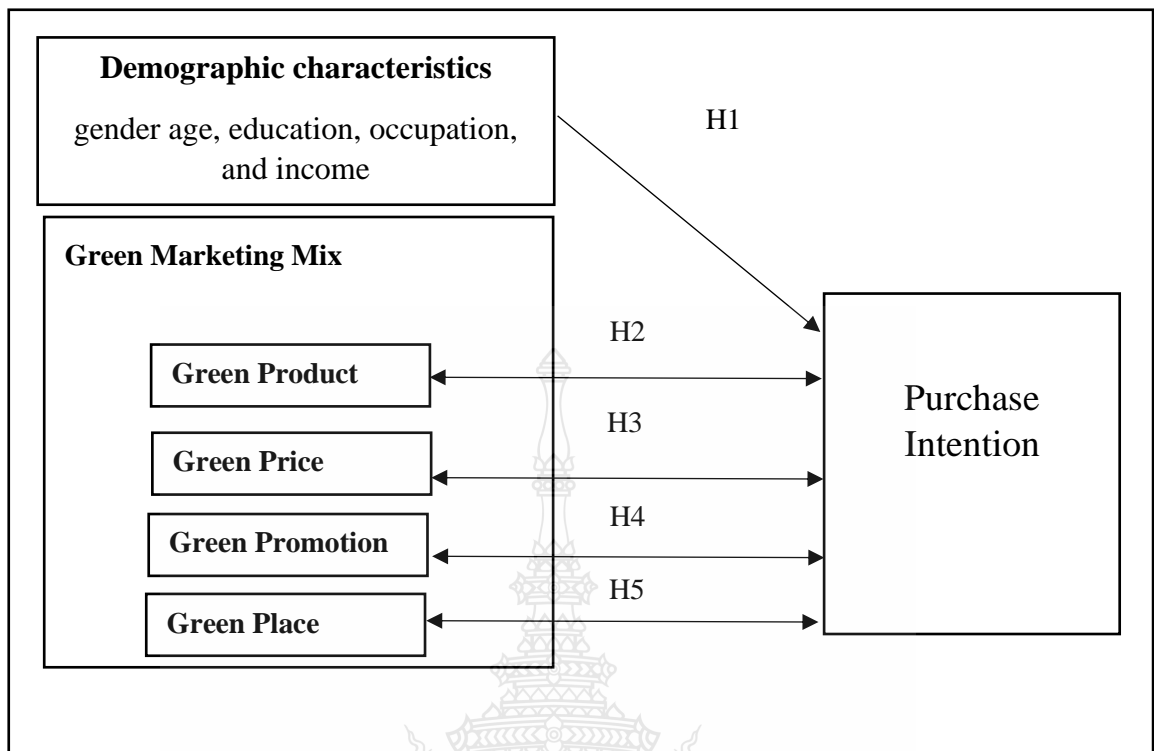


Figure 1.1 Conceptual Framework

Research hypothesis

H1: There is a different impact on demographic characteristics (gender, age, education, occupation, and income) and purchase intention.

H2: There is a positive relationship between green production and a customer's purchase intention of cosmetic products.

H3: There is a positive relationship between green promotion and a customer's purchase intention of cosmetic products.

H4: There is a positive relationship between green price and a customer's purchase intention of cosmetic products.

H5: There is a positive relationship between green place and a customer's purchase intention of cosmetic products.

1.8 Research contributions

Managerial contribution

This section outlines the benefits of this research paper to marketing managers of cosmetic companies. The study on influence of green marketing mixes on purchase intention of cosmetic products will be important to marketing managers in the following ways:

1. This paper would enable the manager to understand the kind of relationship that exists between green marketing mixes and the extent to which a customer is willing to incline towards buying a particular cosmetic product from a specific company. This information will act as an eye opener to these managers, they will be able to develop proper marketing strategies that promote environmental conservation.

2. This paper will also help marketing managers to eliminate marketing strategies that are not fruitful to a particular cosmetic company. Since this study evaluates independently the impact of each marketing mix on purchase intention, the manager will be able to distinguish the effecting methods from the defective ones and embrace only those that are beneficial.

3. Company managers who intend to modify their production processes to become more environmentally friendly can also benefit from this research. The study partly discusses a few challenges that might be faced during the transition but with an assurance of increased profits in the long run since consumers are developing value for eco-friendly products.

Theoretical contribution

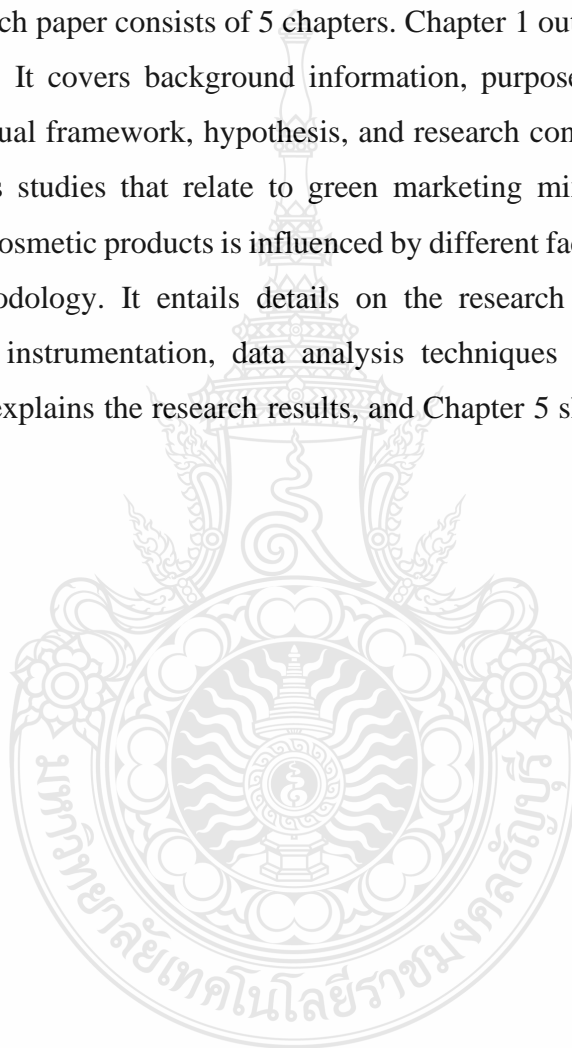
This section explains how academicians or researchers can make use of this research paper. The benefits of this research paper to researchers include:

1. Researchers will be able to acquire information related to green marketing components, how they are conducted or achieved and how they influence continual growth of business (using customer maintenance strategy). The green marketing aspect has not been explored at large and there are quite a few aspects that are not well understood by many. This study gives a comprehensive explanation which will be an advantage to any prospective researcher.

2. This paper will benefit academicians in the line of cosmetics (cosmetic production) since the study focuses on this industry to investigate the effects of green marketing components on buyer intent. The researcher will acquire knowledge on embracing environmental sustainability in all areas of industry.

1.9 Organization of the study

The research paper consists of 5 chapters. Chapter 1 outlines the introduction of the research paper. It covers background information, purpose of the study, research objectives, conceptual framework, hypothesis, and research contribution. Chapter 2 is a review of previous studies that relate to green marketing mixes. It also shows how purchase intent of cosmetic products is influenced by different factors. Chapter 3 explains the research methodology. It entails details on the research design, data collection methods, research instrumentation, data analysis techniques applied and hypothesis testing. Chapter 4 explains the research results, and Chapter 5 shows the discussion and recommendations.



CHAPTER 2

LITERATURE REVIEW

This research studied the relationship between green marketing and cosmetic purchase intention which aimed to clarify exactly how green marketing concepts influence the decision making of cosmetic consumers. This section analyzes the literature on the effects of environmental protection marketing strategies on consumer purchase intentions. Each section of the chapter is devoted to a different topic; This chapter begins with a discussion of green marketing. The second part contains the text of the green marketing mix; the third section presents the text on purchase intention and consumer behavior, and finally the fourth section presents the purchase intention and green marketing mix.

2.1. Green Marketing

Green marketing has become a popular topic of study, so many studies have been done on it. Following the earth and environment's decline in the 1970s and 1980s, the concept of Green Marketing emerged in the late 1980s. Because of this, Conditional advertising started using eco-friendly methods. In 2016, green marketing started becoming relevant and beneficial to most marketers due to its ability to deliver new opportunities and competitive edge than ancient or traditional marketing, as stated by Govender & Govender. According to Chen (2013), "Green Marketing" is an enterprise's initiative to create, publicize, value, and move products with zero or minimal adverse environmental impacts. According to these academics, green marketing encompasses anything done to create or facilitate an exchange for the purpose of satisfying human wants and needs (Schena et al., 2015).

Some specialists assert that Green Marketing can be defined in a manner inclusive of promotional use of tools. According to these specialists, these tools satisfy individual and organizational needs in such a way in which preservation, safety, and protection of the natural environment is achieved. Currently, environmental conditions is a concern to every sector of the economy, enterprises, institutions and individuals worldwide. This concern dates to more than 50 years ago. In 1971, some others, for

example, Kinnear et al (1974), Fisk (1973), and Kassrajain (1971) published the first journals related to Green Marketing in the marketing articles. This topic involves a few activities such promotion via Green Advertising, change in packaging, and alteration in the production methods using natural resources.

The main point of green marketing is to produce and sell those commodities that are not harmful and dangerous for the earth and environment. This production and selling of environmentally friendly products go together with boosting the consumers to purchase green products to be part of the move to protect the environment. Organizations and suppliers must thus change their approach in the provision of commodities that are of benefit to both consumers and the environment. Green marketing undergoes through phases during its integration and every phase has specific explicit features that comply with the environmental needs. The diverse phases are divided into three eras. The first phase is called Ecological Green Marketing; this phase involves all the environmental challenges. The second phase is Green Environmental Marketing; this phase includes competitive benefits and hygienic technology.

Green Marketing has become among the top business fields that are greatly discussed in several newspapers' articles and journals with relevance to environmental issues globally. Some researchers and specialists have called green marketing stable marketing due to its ability to help save and sustain the environment. According to Shirsavar & Fashkhamy, 2013 Green marketing is fast evolving even in the developing countries. It is one of the main trends in world business. The key concept here is to replace all conventional marketing operations that enclose and ease the trading of goods and services without negatively impacting the natural world. Green marketing seeks to achieve business goals and satisfy customers without negatively impacting the environment. Conventional wisdom limits the scope of "green marketing" to the promotion of goods that are friendly to the environment (Shirsavar & Fashkhamy, 2013; Singh, 2010). Consumers in 2010 associate "green marketing" with phrases like "environmentally friendly," "phosphate free," "ozone friendly," "refillable," and "recyclable," as stated by Singh. To meet human needs in a way that causes no or little damage to the natural environment, environmental marketing encourages and supports all possible alternatives.

Green Marketing has become a global phenomenon and an important part of the current organizations, management activities and functions. Each company or organization deals with green marketing differently; the technique a company or organization employs to deal with this phenomenon directly influences its image on the public. A variety of companies, institutions, and organizations have claimed that their commodities, services, and/or working environment satisfies or meet the green environment standards. Previously, Green Marketing mainly focused on the ecological context, but this was later shifted to sustainability issues in the marketing labors. Currently, the basic idea and the focus is in environmental and socio-economic framework. Green Marketing focuses on the following four issues. First, the significance of green marketing; second, the effect of green marketing on organizations; performance and competitiveness; third, identification by customers; and fourth, promoting effectiveness of green marketing (Kumar et al., 2011). Being one of the main and current trends in modern business, Green Marketing has enabled consumers to be conscious about environmental issues. The consumers can now adhere to regulations placed by national governments.

Despite the current trends and increasing popularity of this concept, some people do not believe in it. The people who do not believe in it feel that consumers are more interested in things like packaging, functionality, and price compared to if a commodity is green or not. This implies that green marketing does not fully influence consumer purchasing intention. According to Coleman et al., 2011 some people might see this as just some kind of noise since and confusing element since green marketing has become a vital issue, but a gap still exists in what people see as a challenge and what they are willing to give in response. Our daily life has now become part of the green revolution, sustainable development, sustainable lifestyle, and green revolution. Green marketing has now enabled several organizations in diverse industries to follow the above trends.

2.1.1. Advantages of Green Marketing

There are three main reasons for a business to “become green,” as stated by Awan (2011). Legitimacy, competitiveness, and ecological consciousness are a few of them. The concept of “green marketing” has been crucial in the fight to reduce humanity’s environmental footprint. This concept is foundational since it tackles the future and

present competitive strategies of businesses. Businesses that develop and promote cutting-edge products and services in a manner that doesn't harm the environment are more likely to succeed than their less environmentally conscious rivals. Such companies get a competitive advantage via market expansion, price increases, and more revenue and profits. Almost every company has the aspiration of being more dominant in the market than its competitors. Adopting environmentally friendly methods that boost resource efficiency and lower operational costs might provide a company a competitive edge over its competitors.

In addition to helping the environment, becoming green may help companies stand out from the crowd by delivering unique items to unexplored areas. Company value, customer loyalty, and earnings will all increase because of adopting the aforementioned strategy. Several companies have used eco-friendly advertising to keep up with the competition. The strength of a company's brand name may have a significant impact on its capacity to compete in each market, its corporate social responsibility and brand image, and its longevity. Green marketing encourages companies to fulfill their social and environmental responsibilities. There are approximately five main reasons why a company would want to increase its Green Marketing efforts (Tjahjono et al., 2019). These are several examples

Most companies and organizations discerns green marketing (environmental marketing) to be a chance for the achievement of its objectives and goals.

Most national government bodies are forcing companies to go green in order to become more responsible.

Other firms change their environmental marketing actions when their competitors marketing activities get altered.

Firms believe that they have a moral cause to become more socially responsible.

Waste disposal and other activities have cost factors, these factors force firms to change their behaviors.

2.2 Green Marketing Mix

2.2.1 Green Product

The aspects of the green marketing mix are used in varying degrees by various businesses. The 4P model is used by certain companies, whereas the 7P model is used by others. The "4Ps" is the most often used marketing mix, yet many companies struggle to find unique ways to put it to use. Ginsberg and Bloom (2004) separated green marketing into four unique strategies based on the four Ps of the marketing-mix: promotion, place, product, and price. Strategies range from "lean green" to "protective green" to "shaded green" to "extreme green." Lean green companies, according to most academics and industry professionals, are just looking to save costs by addressing environmental problems and are not actively promoting green practices. Some corporations use a "defensive green strategy" to respond to the onslaught of criticism they get from green activists and their competitors. Businesses often employ the "shaded green" method to plan for future success. Extremely eco-friendly enterprises often address quality, cost, and manufacturing as part of their commitment to environmental sustainability.

In the past two decades, marketers have been interchangeably using terms like green products, sustainable, environmentally friendly, eco-friendly, and pro-environmental to inform and tempt consumers as part of green Marketing (Mahmoud et al., 2017). "Environmentally friendly" simply concerns commodities (products) or services that have insignificant bad effects to the outdoor environment. Despite this, for more than ten years the United States (U.S) FTC (Federal Trade commission) has issued cautions about commodities being advertised or marketed as environmentally friendly (Atlanta, 2010). Green products refer to products that are manufactured with ingredients free from toxic and environmentally friendly strategies, certified by responsible organizations. The most vital part of green marketing mix and green marketing strategy is the product (Mahamoud et al., 2017; Kumar & Ghodeswar., 2015). The two terms, environmentally friendly and green product, have been used in the world of business for quite a good number of years. They are used for efforts which boost and safeguard the natural surroundings by preserving energy and natural resources and eliminating or reducing use of toxic agents, waste, and pollution.

Despite product being the center and most essential part of green marketing mix, green product is not limited to the final output only but also comprises all the components of the product, for example, the package of the product, the production process, and the raw materials utilized. Fan & Zeng, 2011 cites that green product is one that complies with the same functions as the equal conformist product. It should cause no or less harm to the natural environment during its life cycle. Moreover, its composition should not assault or injure. Due to these reasons, green products are also known as ecological products or environmentally friendly products. According to Teng et al, 2012 green products are ones that have no health danger to animals or human beings; do not have materials obtained from the endangered animal and plant species; does not contribute much waste in its packaging or use; will sustainably utilize animal and plant products. Reducing resource consumption and increasing conservation of scarce resources is the main ecological objective in planning products; green products perfectly fulfill this objective by not polluting the natural environment and can be conserved or recycled. Firms are advised to consider both profit stands and environmental sustainability before they develop green products or pursue market opportunities after their production (Albino et al., 2009). The above features and attributes of green products make them highly competitive in the market as customers are obsessed with products that are environmentally friendly. In the cosmetic industry, most consumers love green products due to their health and safety attributes. However, there have been some concerns about marketing of these products. This is not a big challenge in the market as some innovative firms have discovered techniques to capture the market and increase profits during marketing (environmental).

2.2.2 Green price

The price that a client pays for a product is often identical to the cost of producing that thing. This cost should be taken into consideration extensively when thinking about the green marketing mix. Many purchasers can fork out more cash and are prepared to do so if they consider the item, they purchased has some kind of value that is in addition to what they paid for it. Product value may be increased in a variety of ways, including via enhanced design, utility, taste, or aesthetics (Mahmoud, 2017). The fact that Green Marketing will be charging a premium for its services will make it easier for the

company to consider the concept of value addition and the facts that relate to it (Mahmoud, 2017). It is expected that there will be a rise in sales of environmentally friendly products if their price points are made more accessible to the general population. The price of an environmentally friendly beauty product is proportional to both the quality and the quantity of the product. Although the initial purchase price of an environmentally friendly good can seem to be high, research has shown that in the long run, these goods almost always end up costing less (Solvalier, 2010). This is attainable because of steady improvements in comprehension, the advantages of learning by experience, and the accessibility of high-quality technology instruments that are available at cheap cost (Bukhari, 2011). In green pricing, all three of profit, environmental impact, and social welfare are considered. These precautions ensure the health and safety of all employees, as well as the prosperity of the communities immediately adjacent to the facility, and a high level of productivity among the workforce (Kalama, 2007). The value of Green Pricing might be raised by modifying its features, altering its design, or making it more unique to the user's needs. In certain circumstances, its prices may be higher than those of comparable products and services offered by competitors.

It is essential to have pricing strategies that take into consideration the positive effects that green marketing has on the environment. The extra resources required to make green products more ecologically friendly during production, disposal, and packaging have traditionally caused green product pricing to be much more than typical. According to the findings of many surveys and research, customers are willing to pay an additional premium of 7–20% for environmentally friendly products (Solaiman et al., 2015). Green marketing strategies need to take into consideration the reciprocal relationship that exists between the actions and attitudes of consumers. This is an expansion on the idea that, contrary to what is often believed, consumers are not willing to pay more for ecologically friendly products (Solaiman et al., 2015). According to Mahmoud, when one takes into account the cost of the product throughout its whole lifespan in addition to the cost of the original purchase, environmentally friendly products may turn out to be more reasonably priced than one may expect (2017).

2.2.3 Green Place

Green place and green distribution are another vital part of the marketing mix. It is concerned with the management of logistics to cut down on transportation emissions. The cut down in transportation emissions aims in reducing the carbon footprint (Solaiman et al., 2015). Green place is related to distribution doors used that deal with green products in customer friendly means. This is in terms of delivery facilitation, conducting environmental requirements and conditions, and securing cycling procedures. Place stands for the area or setting where a green product can be purchased. A place can have both virtual and physical stores. Green place has several features that create revenue and other outcomes and thus it is not a cost generator factor. Green place as a green marketing mix is dealt “how-to-handle-distance” (Mahmoud et al., 2017).

The choice of the place and time (where and when) to avail a green product to consumers by a firm have an important impact on the customers. It is hard for most customers to cross their thresholds to purchase green products just because it is a “green product” (Solaiman et al, 2015). The fact that customers must be aware of the Ecological nature of the product makes green distribution a delicate operation (Mahmoud et al., 2015). Only a limited number of customers will go out of their way to buy green products (Mahmoud, 2016). Distribution of products is one function which when turned green has the highest impact on the environment. Green distribution involves shipping using vehicles that directly interact with the natural environment (Mahmoud, 2016). One way to help the environment and enhance greening is to adopt vehicles that are environmentally friendly. Logistics approaches procurement, distribution, material handling, material recovery, disposition, and storage; thus, is directly correlated to the distribution of the green products (Mahmoud, 2016).

2.2.4 Green Promotion

Green promotion involves providing accurate and correct information about the products in a manner that has no materialistic and moral harm to customers’ interest (Mahmoud et al., 2017). Green advertising works as promotional message and is vital promotional tool that may appeal to the prevailing demand of consumers who are more environmentally concerned. The basic idea behind green advertisements is to impact customers’ purchase characteristics or behaviors by giving support or courage to them.

The encouragement will help the consumers purchase products that are free from pollution. It also directs consumers' interests to the positive results of their purchase behavior (Mahmoud, 2016). The above concept is some special kind of marketing communication defined as a cross-functional activity (Mahmoud et al., 2017). Involvement in green promotion may influence the likelihood that firms' claims are correctly monitored.

Tactical activities in green marketing can be communicated using environmental communication; such activities may include minor product modification or environmental sponsorships. The firms should understand the goals of such activities in order to avoid being in a position where they are forced to overclaim. If the goals are not clear and the company over claim, consumers can see these activities as green wash and ignore the promotion or even boycott products as a way of punishing the firm. Sometimes consumers can punish the firm by complaining to the regulators (Solaiman et al, 2015; Singh, 2010). Recently, there have been many environmental terms used in promoting products and this has created a big challenge for both consumers and marketers. Due to harsh critics on some of these terms, for example, biodegradable and recyclable, most firms have stopped promotion of environmental benefits of their products (Solaiman et al., 2015). This problem has been a nightmare for marketers and their ability to properly promote their green products and actions.

2.3 Purchase Intention

Purchase intention is the likelihood that a consumer will purchase a product or service in future. A negative purchase intention restrains a customer from purchasing a product while a positive purchase intention motivates a customer for real purchase action (Arslan et al., 2014). When the purchase intention increases, the probability of purchasing increases too and vice versa. One-way researchers have used as a pointer for estimating customer behavior is the purchase intention and that is why is a significant area to study when dealing with consumer behaviors. According to Mahmoud (2016), Positive brand image is important for any business; when consumers have a positive purchase intention, it implies a positive brand commitment which drives the consumers to take a positive purchase action. The cost of prospecting for a new customer is a bit higher than the cost

of retaining a present customer (Ihtiyar & Ahmad, 2014). According to Wu & Chen, 2014 the purchase intention for green products is conceived as the likelihood and willingness to choose to purchase a product that is environmentally friendly or has characteristics of having eco-friendly conditions. Sometimes the value and benefits of a product as perceived by the customer plays a crucial role in purchase intention and the ability of the customers to be willing to buy or visit a store offering related services and products.

For a good number of years now, many studies have tried to investigate the relationship between empirical trends and academic models (theories) in the customer purchasing intention area. The study of association is vital because consumers' purchase intention is performed the result beyond perspective. For instance, Mahmoud et al, 2017 cited that there existed a significant relationship between environmental attitudes, knowledge, environmental concern, and green purchase intention. Intention is a specificity to act in a correct manner (Solaiman et al., 2015). Purchase intention is therefore an attempt to buy a service or product. There are several factors that exerts positive and negative effects on green product purchase intention. The most common factor that exerts a negative effect is the external focus while subjective norms, collectivism values, and environment visibility exerts a positive impact (Mahmoud et al., 2017).

There is a clear difference between consumer behavior and purchase intention. Consumer behavior refers to the actions and methods individuals are involved in when looking for, purchasing, choosing, estimating, disposing, and using of services and products to satisfy their desires and needs (Singh, 2010). According to Haery et al., 2013 Green consumers will only purchase those commodities and products they think positively impacts the environment. Several factors like social norms or price are crucial in influencing the purchase intention or buying behavior of consumers. Some studies have shown that customers are sometimes convinced by the social norms and societal approval which indicates a positive relationship between purchase intention and social norms; but this varies from one society to another (Jaju, 2016). Examining green buying behavior makes it easier for marketers and researchers to recognize green consumers' purchase intention and pattern (Jaju, 2016).

Green behavior can be explored in a manner that involves those activities that will directly influence the ecosystem. Various studies have indicated that there is a negative relationship between green purchase behavior and higher prices. This implies that consumers are unwilling to purchase more green products due to their expensive nature compared to conventional products. Due to the fast-growing demand for green products, consumers have been at the forefront of encouraging green practices that have minimum effects on the environment (Jaju, 2016). Such activities include recycling, saving electricity or paper, less chemical usage in making products, and organic food. Green Consumers purchase intention is the attempt to buy a product or service which is environmentally friendly (Mahmoud, 2016). Feelings and attitudes of the consumer have a great influence on the purchase intention (Arsan & Zaman, 2016). Sometimes the feelings and attitudes influence the retail store a consumer will buy a product from. Other factors that affect purchase intention form a particular store are external factors like timing, location, and brands sold in the store (Mahmoud et al., 2017).

Green buying decision is another important area of study under purchase intention. Green consumers decision making process is influenced by various factors (Kotler & Keller, 2009). The main factor that influences this decision is the consumer's awareness and information about a particular product or service. The five stages of Purchasing-decision process proposed by Kotler & Keller (2009) include recognition of the problem, information search, alternatives evaluation, purchase decision, and post-purchase behavior. Most consumers take their time to gather as much information as possible before making the buying decision; but sometimes it is just based on their knowledge, attitude, and beliefs. Many studies have been carried out on green marketing and the strategies used to pass and spread information to influence consumer's purchase behaviors. A study by Jaju (2016) found that there is a positive correlation between consumers' environmental perspectives and their trust on the performance of green products.

2.4 Green Marketing Mix and Purchase Intention.

Only a few studies have looked at the relationship between green marketing mix and purchase intention. Price, ecological marketing, socio-demographic characteristics, and ecological packaging are some of the factors considered in the study of Ansar (2013) titled "The effect of green marketing on consumer purchase intention". According to the results, there is a positive correlation between these factors and the intention to make environmentally friendly purchases. Some researchers have found a positive relationship between the willingness of the consumer to buy a product and the price of that product. Consumer choices to purchase certain environmentally friendly products have a direct and tangible impact on the natural world. Few consumers are immune to green marketing. Targeting or otherwise identifying environmentally conscious market subgroups is important. In some parts of the world, such as the United States and Europe, the prices of non-environmental products are high. This is because the price reflects the additional costs associated with the production, disposal, or packaging of the product. The high cost of environmentally friendly products reflects how they protect the environment. Many environmentally harmful products cost less to produce than environmentally friendly alternatives (Mahmoud, 2016). According to Jaju (2016), many consumers claim that the environment or environmental aspects of the product play a role in their decision-making process about the product; however, these users do not make any purchases.

This decade has seen an increase in the number of buyers of environmentally friendly products. Most consumers are willing to pay more for environmentally friendly products, which help improve and protect the natural environment (non-environmental products). This step is necessary to prevent further damage to the environment (Mahmood, 2016). During this period, consumers became more conscious in their purchase decisions, preferences, and attitudes toward the environment (Wu, 2011. The Effect of Green Marketing on Consumer Purchase Intentions). Therefore, environmental issues are not the main reason for consumers to buy environmentally friendly products, and consumers are not willing to sacrifice the quality of other products for a better environment to improve the environment.

2.5 Comparison between Traditional Marketing and Green Marketing

Traditional Marketing

Traditional marketing involves promotion of goods or services via mediums such as radio, television, billboards, or prints by an identified sponsor. The main aim of traditional marketing is to create awareness of a brand and increase demand for the product. Most of the times traditional marketing is done through sponsored content, for example, Television Commercials. The techniques used in traditional marketing do not generate significant results most of the time due to the lack of transparency on what works best for every consumer segment. Traditional marketing techniques use traditional business models because it mainly focuses on promoting a product, developing a bond with the consumer, and generating income. It often consists of use of adverts, promotions, and discounts to lure customers(Kia, Halvorsen, & Bartram, 2019).

Green Marketing focuses on environmentally friendly techniques alternative to traditional marketing methods. Green marketing focuses on creating awareness about a product by promoting it. The products promoted here are eco-friendly and sustainable. In green marketing, consumers are advised or encouraged to environmentally conscious decisions when purchasing commodities.

Firms spend large amounts of money to advertise their products in traditional marketing, leading to insufficient funds for research on ways to improve the products or on how to incorporate new technologies. In traditional marketing, there is no incentive to make improvements since its main goal is to get people to buy products rather than improving them(Weber, Unterrainer, & Höge, 2020).

Table 2.1 Traditional marketing and green marketing.

Criteria	Traditional Marketing	Green Marketing
Parties involved in exchange	<ul style="list-style-type: none"> • Firm • Customer 	<ul style="list-style-type: none"> • Firm • Customer • Environment
Objectives	<ul style="list-style-type: none"> • Customer satisfaction • Satisfaction of the company objectives 	<ul style="list-style-type: none"> • Customer satisfaction • Satisfaction of the company Objectives • Minimizing the ecological impact caused.
Corporate or Business responsibility	Economic responsibility	Social Responsibility
Marketing Decisions' Areas	From manufacture to product use	Entire value chain form providing raw materials to the post-consumption stage
Environmental claim or ecological demand	Legal requirements	Design for environment beyond the law
Green interests' groups	Facing confrontation or passive attitude	Open relationship and collaboration (Co-operation)

CHAPTER 3

RESEARCH METHODOLOGY

Chapter 3 presents the research methodology applied to test the hypothesis for this study and draw meaningful conclusions. The methodology part of this research paper outlines how the relationship between green marketing mixes and purchase intention of cosmetic products, which is the general objective for this research, will be determined. Research methodology is crucial in any research work because it explains the methods applied to understand the main research context. It also outlines the procedures to be followed, the people involved and the items to be used when conducting research. This research uses mixed data procedure or composite methods for the achievement of its objectives. Each variable in the study must be covered with a proper methodological rationale; thus, the need to construct the prevailing methodology technique in a certain method. This chapter is divided into different sections; the first section outlines the research design used in the study. The second section describes the unit of analysis used in the paper, that is, population and sample group, and data collection method. The third section outlines the indicators and measurement (explains each variable independently and describes its type) employed in the study. The last section describes research instrumentation. This section entails questionnaires for data collection, statistical tools and methods used for data entry and analysis.

3.1 Research design

A research design enables a researcher to make decisions on correct approach to handling research objectives and whether to rely on primary data or secondary data. A research design is a defined strategy applied in answering research questions by using empirical data. An appropriate design of research helps define sampling methods that are suitable for the study and outlines a suitable criterion for selecting and handling research subjects or variables. Selecting a suitable research design involves critically studying the variables to be used in the research and the possible nature of data to be collected. A well-structured design explains procedures followed when collecting data, the methods of data collection, and data analysis methods to be used.

The research on finding the relationship between of green marketing mixes and purchase intention of cosmetic products will focus on quantitative method of study. The quantitative approach is perfect for this research because the technique can combine empirical observations of individual behavior with deductive logic to conform and discover a set of probabilistic casual laws used to predict general trends. Quantitative research is a type of learning investigation where the study determines what to investigate, by asking specific and precise questions, collecting nominal data from a substantial number of a potential population, analyzing these values using a recommended statistical tool and conducting searches in an objective, unbiased manner. The quantitative approach is conducted through a survey of the population of young customer who ever bought cosmetic products in China. Survey research is vital in ensuring objectivity, reliability, and generalization while choosing the study sample. Quantitative method collects data from existing and potential participants by using sampling methods and conducting survey (using a physical or online questionnaire to collect and record data). A distinguishing characteristic of this research method is that results can be portrayed in numerical form. The method then uses statistical techniques and specific analysis methods to test the hypothesis concerning the relationships between variables.

3.2 Unit of analysis

3.2.1 Study population

The range of cosmetic products is quite huge and almost every individual uses at least one kind of cosmetic product on a frequent basis. This implies that potential buyers of cosmetic products are distributed all over the world. These facts enable the study, to determine the relationship between marketing mixes and purchase intention, have an extremely large potential population. However, for academic research, it is key to consider costs and short timelines. Therefore, a suitable target population can be just a section of residents. This study will consider residents of young customer who ever bought cosmetic products in China as the target population. Participants of the study must meet some characteristics to qualify to be a respondent in the research.

Eligibility criteria

It is necessary to establish this criterion whenever one is conducting any research study. Eligibility criteria determine who among the members of a target population can or cannot participate in the research study. For this research work, the inclusion criteria are outlined as follows; one, a participant must be above 20 years of age. Two, uses at least one type of beauty cosmetic product regularly. Three, the participant must be in a position to make independent decisions on what type of beauty cosmetic product to purchase and from which company or distributor. Children are excluded from this study because of two reasons; first, children use beauty products that are selected and instructed by parents. Second, it is not ethically correct to acquire information from children to be used to for research. The eligibility criteria must be adhered to strictly when collecting data.

3.2.2 Sample group

A sample group is a section of the population that is surveyed to obtain responses for a research study. A sample group is used to obtain inference about the larger group, that is, the population. A good sample group should be able to infer the population appropriately and not be biased towards any part or member of the population. A suitable sample size for a defined population can be determined in several ways; either when population is known or when the population size is not known. It is possible to identify an ideal proportion that represents the target population and produces efficient and statistically significant results that does not use up a large number of resources. It is okay for a good sample size to have an error margin.

Steps for determining sample size.

The best method for determining the sample size for this research is described as follows.

First, defining the size of target population. This step might seem easier but in most cases it is not. However, for this study, the population is an administrative unit and therefore it is much easier to find data records for the population size. Most administrative locations have population records and are updated on a regular basis after conducting a census.

Secondly, defining the error margin. It is unfeasible to avoid random sampling errors when working with a portion of the entire population. Setting a size of error margin that one intends to permit when sampling participants is the only way to have confidence in the obtained results. The confidence interval or better known as margin of error shows to what level one is willing for the sample group mean to differ from the population mean. This deviation is relative, either to the higher side or on the lower side. The standard confidence interval is usually set to 5%.

Thirdly, determining the level of confidence. The level of confidence shows how sure one can be that the right proportion of the entire population would select an answer within a particular range. The confidence level corresponds to a Z-statistic which is a value that shows that the placement of the percentage of one's confidence level is any number of standard deviations above or below the population mean.

Fourthly, determining the expected variance. The amount of variance expected among participant's responses should be known. Standard deviation, which is the square root of variance, shows how much sample data points deviate from the overall population. It is recommended to use a standard deviation of 0.5 to ensure that the group is large enough.

Lastly, calculating the sample size. Having obtained all these values described above, it is possible to calculate the sample size by applying a numerical formula or using techniques designed online for determining sample size.

Sampling technique

A sampling technique is a method applied to help control the process of collecting data from a population. A perfect sampling technique for this study is clustered sampling. The target population is large and widely spread through an entire district. Therefore, establishing clusters (small groups within a large population) will help the process of data collection much easier. These clusters could either be a much smaller administrative boundary after district. Each of the clusters will have an equal share of sample size to avoid bias. Once the clusters are marked, respondents will then be selected randomly from each cluster. That is, simple random sampling is applied in every cluster.

3.3.3 Data collection

All the data for this research were collected using questionnaire through survey data collection technique. Survey research dictates the researcher to use specific sources to gather information from the respondents. In this study, face-to-face surveys or online surveys can be used in collect data from consumers of cosmetic products. In current times, online surveys (issuing questionnaires via online platforms) is most preferred since it has more advantages over physical interviews. Online surveys can reach a maximum number of people and its widespread is more compared to other methods. It is also less time consuming and convenient since the data collection process is carried out at the comfort of a home.

3.3 Indicators and measurements

This section gives a description of the research variables used in this study.

Green product as an independent variable

Aspects relating to production of a product have high effects on the decision of a buyer towards intending to acquire a product. Production influences purchase intention of a cosmetic product. Most people would prefer cosmetics that have less pollution to the environment and products that have reduced adverse effects on the human body.

Green promotion as an independent variable

Promotion of a product affects the chances of consumers buying the same product. Green promoting can be done in different ways if the methods promote environmental conservation. Such could be in terms of setting aside a specific day to train on the environment, holding seminars and campaigning for use of environmentally friendly products.

Green price as an independent variable

The price of an item is most likely the major determinant of a person's purchase. Thus it highly affects purchase intention of cosmetic products. Green products tend to be highly priced compared to conventional products. However, high pricing that corresponds to quality cannot be ignored by consumers.

Green place as an independent variable

Distribution of a product affects the purchasing power of a customer. Green placement (distribution) should be able to have distinguished agents, a proper form of delivery and friendly agents. These aspects can encourage a buyer to acquire a product, not just once but on several occasions.

Purchase intention as a dependent variable

Buyer intent is subjective to very many factors. It is easily affected by how a product is produced, priced, promoted and distributed. Products that promote environmental sustainability are likely to sell because consumers are developing value for conservation of the environment. Thus, purchase intention is a suitable dependent variable for this study.

3.4 Research instrumentation

The study on green marketing mixes on purchase intention of cosmetics products applies quantitative research design to evaluate its objectives. The study will deploy research tools to aid in evaluating its objectives. The research tools include a questionnaire, electronic data entry and coding sheet and statistical analysis software.

Questionnaire

A questionnaire will be used to collect quantitative data regarding the study's general objective. The questionnaire covers all the elements relating to research measurements and variables. Several steps are involved in formulating the study questionnaire; one, studying and reviewing research papers, concepts and theories that are related to this study's topic. This exclusive research enables one to clearly understand the gaps in research and be able to formulate questions that would answer research questions. Two; summarizing output of step one using content (thematic) analysis and critically analyzing the research variables, then using this information to create a questionnaire. Three; ensuring that the questionnaire is clear, precise and captures only information that is required by the study. Lastly, writing a consent letter which will act as proof that any information captured primarily in the questionnaire was issued out of good will and not forcefully or illegally.

The questionnaire to be used for data collection is divided into several sections: Part 1 outlines general information of respondents. This section seeks to find out various characteristics of respondents including gender, age, level of education, level of income, occupation and type of cosmetic product used frequently. Part 2 describes the green marketing mixes. This section describes green promotion, green place, green product, and green pricing. The questionnaire seeks to find out a respondent's level of opinion based on aspects related to each type of marketing mix. Part 3 outlines details about purchase intention. The questionnaire seeks to find out the practice level of different actions related to purchase intention.

The quantitative data to be collected are of different measurement scales. The different measurement scales are nominal which explains the identity property of data. Also, ordinal which defines data in a particular order and finally, interval which defines quantifiable data that contains properties of both nominal and ordinal scale.

Data entry

Once the survey is concluded and primary data has been collected, the next step is to enter the data into electronic data devices. For this study, Microsoft excel would be the most suitable tool for data entry. Each question would have its responses captured in one column. The rows of the excel sheet, mostly referred to as cases in statistical analysis would represent every individual; (study participants). All responses are to be entered into a single excel sheet. Data cleaning then follows to ensure there are no missing data entries and confirmation of whether all entries are of the correct type.

Data analysis

The Statistical Package for the Social Sciences will be used to carry out the data analysis for this body of work pertaining to research (SPSS Statistics 17). It is the most practical statistical software to use for evaluating the project since it is intended to carry out a great deal of analytics with a minimum amount of user input of codes. The results obtained, either in tables or graphs are properly marked and easy to comprehend. SPSS has two windows: data editor and variable view. The variable view shows a description of every variable in the dataset, from the variable type to maximum character width, measurement scale and value labels where applicable. The data editor is basically a sheet where data values are entered, and any changes can be made from there. This software

has tabs and commands which are used to perform necessary analysis on the dataset. The most used ones for statistical data analysis are “Analyze” and “Graphs”.

This study seeks to determine the relationship between independent variables and the dependent variable (purchase intention). Aside from evaluating these objectives, the study will also give a description of the respondent’s characteristics. Therefore, the research will apply both inferential and descriptive statistics for analysis of data. Descriptive statistics gives a generalized summary of variables, and it gives a description of the data. Mean, standard deviation, range, mode, percentages, median and frequencies are examples of descriptive statistics. Inferential statistics outline relationships in the data set. That is, it shows how various variables are related and the extent to which one variable influences. Examples of inferential statistics that will be applied for this study’s data analysis are regression modelling, Pearson correlation coefficient and analysis of variance. Graphical and tabular representations of different aspects of data are also important. These visualizations portray a lot of information without using many words, they are also eye catching and labelled correctly to be understood by everyone.

Summary statistics

Measures of central tendency and measures of spread are the two main types of summary statistics. The mode, mean, and median are examples of measures of central tendency (also known as location measures). They show the focus and dominant tendencies of a given data collection. Kurtosis, range, quartiles, and skewness are all indicators of dispersion. They reveal the extent to which the data is dispersed. Respondent characteristics will mostly be described using summary statistics. The data was gleaned in part from the survey.

Analysis of variance

The purpose of analysis of variance (ANOVA) is to test for statistical significance between multiple groups means of the same variable. The ANOVA test assumes that all groups have the same variance. The significance level of the ANOVA test should be greater than 0.05 for the significant factors under investigation. The degree of variation in the groups is important to the success of this experiment. If there are significant differences in these categories, the population model is more likely to reflect these differences. The test considers sample size and means variance.

Pearson correlation coefficient

Pearson's correlation coefficient was used to estimate the degree of association. More than two variables can be described using this statistical concept. Any ratio can be positive, negative, or neutral. A positive correlation between two variables indicates that they move together (that is, when one variable decreases, the other also decreases, and vice versa). When one variable decrease while the other increases, the direction of the relationship between the two variables is indicated by a negative correlation. The value of the Pearson correlation coefficient can be negative or positive.



CHAPTER 4

DATA ANALYSIS

In the previous chapter, the research methodology adopted to test the proposed model of this study was discussed. The theoretical model was also used to answer the research questions of the study. This chapter presents the results of the data analysis in five sections. The first section details the respondents' response rate. The second section discusses the validity and reliability measures of the data. The third section discusses data preparation (normality test, the test for outliers, and missing values). The fourth section discusses the demographic characteristics of the respondents. The last section details the discussion about the hypotheses and the different statistical techniques used, correlation analysis and multiple linear regression.

4.1 Respondents' Response Rate

This research has distributed a total of 432 questionnaires to the participants. The researcher surveyed several people in the sample population, who had buy cosmetics. The overall response rate was 94%. This is a high response rate (Mahmoud, 2016). The table below presents a summary of the response rate.

Table 4.1 Questionnaire Return Rate

Detail	Number
Total questionnaires distributed to respondents	432
Total questionnaires returned (not filled-up)	7
Total questionnaires completed received	405
Returned Questionnaires (partially answered)	5
Questionnaires not returned	15
Usable Questionnaires	400
Overall response rate	94%
Usable response Rate	92%

4.2 Goodness of Measures

4.2.1 Validity Tests

Validity test is used to assess the goodness of measure of the study constructs. This study used exploratory factor analysis for testing validity. To conduct factor analysis, the research conformed to assumptions by Hair et al., (2010). The first assumption states that the matrix must have enough number of statistically significant correlations. The second assumption states that Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy should be at least .60. The third one states that Bartlett's test of Sphericity should be significant at 0.05. The fourth states that communalities of items should be greater than 0.50. The fifth one states that the minimum requirement of factor loading 0.50 based on a significant level of 0.05, with value of cross loading exceeds 0.5. Lastly, the eigenvalues should be more than one for factor analysis extraction.

The table below indicates the items for green marketing mix loaded on four factors/components with Eigen values exceeding 1.0. Green products represent all the items of support product. The second component/factor represents all the items of price. The first name of this factor was retained as it is. The third factor represents all the items of support place, and the fourth factor represents all the items of support promotion.

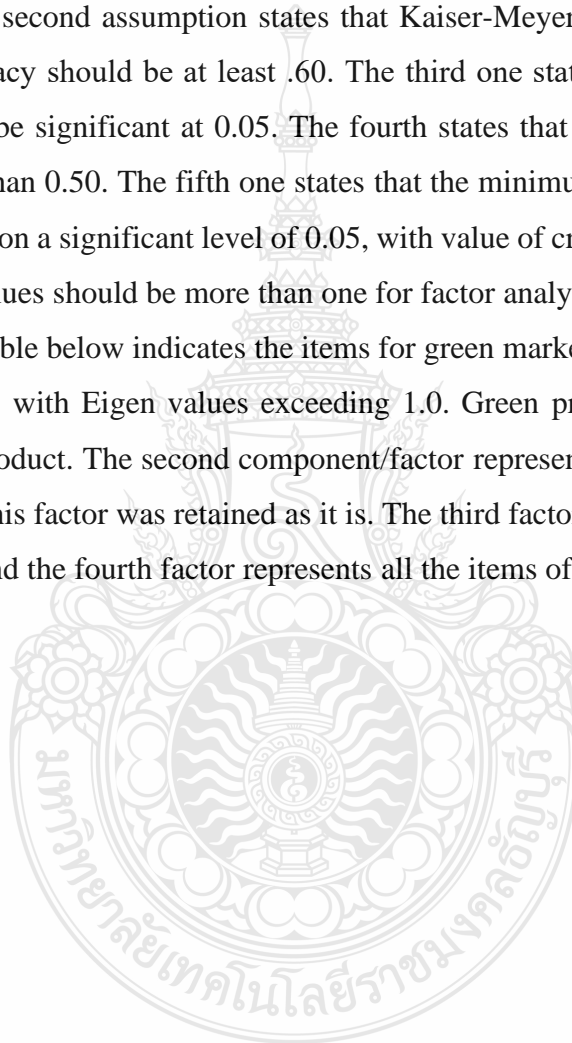


Table 4.2 Rotated Component Matrix

Items	F1	F2	F3	F4
Green Promotion				
The company devotes a special day to the environment.	.661	.265	.098	.190
The company support holding. Seminars and conferences related to the environment.	.730	.228	.159	.133
Employees of the company direct the customers to hour they can use the products in a way does not harm the environment.	.746	.037	.379	.137
Company Contribute to supporting the environmental centers.	.610	.219	.328	.431
Green place				
Products that are friendly to the environment are sold at distinguished agents.	.194	.757	.145	.195
The company makes delivery easy.	.124	.788	.110	.199
The company is keen to deal with agents in a friendly way to the environment.	.157	.710	.112	.032
The store in company is clean	.211	.709	.099	.035
Green product				
The Company concentrates on Producing cosmetic, the least percentage of the adverse reflections on the human beings.	.075	.134	.809	.167
The company contributes, in producing cosmetics with less pollution	.295	.013	.637	.092
There is effective control on the cosmetics that are produced by the company.	.311	.214	.718	- .151
Company makes cosmetic that not tested on animals.	.092	.024	.703	.147

Items	F1	F2	F3	F4
Green price				
It is noted that the company raises the prices of its food products which have harmful negative usage that happens because of misuseage.	.237	.232	.027	.807
High price of green foods sometimes stops me from purchasing them	.428	.219	.167	.525
Price gap between the green foods and conventional foods is huge.	.435	.340	.092	.735
Price of the food Products Proportionate with their quality	-	.329	.151	.750
	.262			

Rotation Method: Varimax with Kaiser Normalization.

4.2.1.1 Validity tests of green marketing mix (extracted)

Results for factor analysis on green marketing mix had recommended values of at least 0.50 in IM with KMO of 0.910., after all the communalities less than 0.50 were dropped in the previous runs of factor analysis.

Table 4.3 Communalities

Items	Initial	Extraction
Green Promotion		
The company devotes a special day to the environment.	1.000	.661
The company support holding. Seminars and conferences related to the environment.	1.000	.730
Employees of the company direct the customers to hour they can use the products in a way does not harm the environment.	1.000	.746
Company Contribute to supporting the environmental centers.	1.000	.610

Items	Initial	Extraction
Green Place		
Products that are friendly to the environment are sold at distinguished agents.	1.000	.757
The company makes delivery easy.	1.000	.788
The company is keen to deal with agents in a friendly way to the environment.	1.000	.710
The store in company is clean	1.000	.709
Green Product		
The Company concentrates on Producing cosmetic, the least percentage of the adverse reflections on the human beings.	1.000	.809
The company contributes, in producing cosmetics with less pollution	1.000	.637
There is effective control on the cosmetics that are produced by the company.	1.000	.718
Company makes cosmetic that not tested on animals.	1.000	.703
Green Price		
It is noted that the company raises the prices of its food products which have harmful negative usage that happens because of misuse.	1.000	.807
High price of green foods sometimes stops me from purchasing them	1.000	.525
Price gap between the green foods and conventional foods is huge.	1.000	.735
Price of the food Products Proportionate with their quality	1.000	.750

Extraction Method: Principal Component Analysis.

4.2.1.2 Validity tests of Purchase intention (extracted)

The questionnaire had 4 items measuring purchase intention. To measure the purchase intention, I did factor analysis. The results in the first run of the factor analysis are shown in the table below. All the items had more than the recommended value of at least 0.5 in OC with KMO value of 0.850.

Table 4.4 Communalities Purchase Intention

Items	Initial	Extraction
I plan to seek out environmental cosmetic products	1.000	0.692
I plan to take more time to search for environmentally friendly alternatives to cosmetic products that I typically buy	1.000	0.793
I plan to spend time searching company websites to learn more about environmentally friendly options	1.000	0.556
• I plan to continue to purchase environmental cosmetic products in the future	1.000	0.624

4.2.2 Reliability Analysis

In a survey, it is important to carry out reliability testing because it ensures the accuracy of the applied measurement. According to Straub et al. (2004), it involves obtaining measures that reflect the genuine scores for the surveyed items exploring the area of study. In this study, Cronbach's alpha has been used to assess the internal consistency of the measurement to test its reliability. The cut-off value for Cronbach's alpha is acceptable when it is greater than 0.6 for internal consistency in exploratory study or greater than 0.7 in confirmatory study. The results in Cronbach's Alpha for study variables' table, the coefficient scores range from 0.767 to 0.838 across all factors. Thus, the findings show a good level of internal consistency.

Table 4.5 Cronbach's Alpha for Study Variables

construct	Variable	No. of items	Cronbach's alpha
Green marketing	Green promotion	4	0.767
	Green place	4	0.741
	Green product	4	0.820
	Green price	4	0.801
Purchase intention	Purchase intention	4	0.838

4.3 Data Preparation

The first and one of the most important steps in any statistical data analysis is to check whether the data is fit for the analysis. The presence of missing values, outliers, non-normality, etc. may bring a problem if avoided. To appropriately manage data, the presence of outliers and missing values must be defined and treated.

4.3.1 Assessment of Missing Values

In most research involving questionnaire-based surveys, there exists a problem of missing values. As we have seen in the response rate, many questions are left unanswered by some respondents. To solve this problem, appropriate screening and treatment is necessary depending on the nature of the values. Hills, (2011) suggests that one method to handle this is by removing the missing values or avoiding the partially filled questionnaires. This method is vital in improving the overall data structure. It is not advisable to try and fix the missing values as it can lead to generation of biased results. The drop-and-collect approach has made it easier for researchers to collect and double-check the unanswered questions. The initial check involves verifying all entries one-by-one and the following check, descriptive statistics for the data; this includes means, standard deviation, variance, minimum and maximum, and frequency distribution. There were no mistakes yield by the frequency distribution statistics, this ensured 100% accuracy of the data.

4.3.2 Assessment of Outliers

In statistical literature, the test for outliers are often well defined. This test always takes a more relative form. There are two extreme choices on how to treat the outliers (Onoz & Oguz, 2003). Firstly, one can either include them with the risk of contamination or reject them with the risk of loss of legit information. Lastly, they can identify as vital, tolerated within the diagnostics, rejected as erroneous, or be incorporated (Onoz & Oguz, 2003). Multivariate, univariate, and bivariate perspectives can all be used to check for outliers. For this study, a multivariate test for outliers was used to test if there are any outliers. This research did not adopt univariate outlier since it has an extreme score on a single variable. To test for the potential outliers for the quantitative analysis, the data was entered into the Statistical Package for the Social Sciences (SPSS Version 17).

In this study, two statistical methods for testing outliers are used. The first method is called ‘accommodation procedures. This approach applies robust techniques of inference; it employs all the data but minimizes the impacts of outliers. The second approach is the computation D^2 (squared Mahalanobis distance). It shows the distance in standard deviation unites between set of vectors for every individual case.

4.3.3 Assessment of Normality

Normality test is helpful in determining whether a data set is well-modeled by a normal distribution. It also computes the likelihood of a random variable in the data set to be normally distributed. Assessment of normality is key because it tests if there are significant departures from normality. This test for normality is essential for both univariate and multivariate data analysis (Khatan, 2021). Das et al. (2016) suggests that normality tests whether the data is normally distributed across the population sample and there are not excessively low or high scores from a few respondents across which can skew the overall result (Hair et al., 2010).

To test for Normality, it is important to assess the shape of distribution of the findings across the sample and the features of the statistics for a single individual metric variable that estimates the normal distribution. Yazici & Yolacan (2007) cites that the presence of a significant variation from the normal distribution makes all the final statistical tests invalid; this is since many of the statistics are developed under the

assumption of normal distribution. If the sample size is large, i.e., ≥ 200 observations, a univariate normality for all the variables is applicable (Hair et al., 2010). A large sample size reduces the detrimental effect of non-normality.

The values of kurtosis and skewness are used to test for normality in some cases (Khatun, 2021). Kurtosis and Skewness measures of every metric variable are essential in statistical test for normality. The prevailing measures help in identifying the variables with significant departure from normality. Kurtosis indicates the peakedness or flatness of a distribution in comparison to the normal distribution. Skewness indicates the distribution orientation (whether shifted to right or left, centered, or symmetrical). If the skew is negative, the distribution is shifted to the right, while when it is positive the distribution is shifted to the left. A positive kurtosis indicates a taller or peaked distribution, while a negative kurtosis indicates a flatter distribution (Khatun, 2021). Measures of goodness of fit summarize the gaps between expected and observed values under the study model.

In statistics, skewedness affects tests for means, whereas kurtosis adversely affects tests of covariance and variance (Das et al., 2016). The extremes of kurtosis or skewness have a random effect on estimation or specification, that is; data distribution with either a high kurtosis or a highly skewed nature. As kurtosis and Skewness of normal distribution have values of zero, measures of kurtosis and skewness of a given distribution that is different from 0 show departure from normality. However, when the sample size is large, $N \geq 200$, slight variations from 0 are of less concern. The cut-off value of kurtosis and skewness should be within the range, -1 to +1 when the data is normally distributed (Yazici & Yolacan, 2007). Later, two different statisticians in their articles suggested a more lenient measure of +3 to -3 (Khatun, 2021; Das et al., 2016).

If the data are not normal after testing for normality one can apply Box Cox transformation method to transform non-normal data set to normal. When using normality to test for residuals from a linear regression model, one should be careful to check whether the residuals are normally distributed (Khatun, 2021). If not normally distributed, the residuals are not supposed to be applied in Z tests, F tests, and chi-squared tests. Some of the things that may lead to residuals not being normal include wrong functional form of

either the dependent variable or one predictor variables, or maybe an essential variable may be missing.

The table below displays the results of the normality tests. The output demonstrates that all values for the items fall within the range of -1 to +1, except for items (7, 8,11,12,19, and 26) but they meet a lenient range of -3 to +3. Thus, the measures of kurtosis and skewness for all the variables confirm no issues of non-normality of a multivariate data.

Table 4.6 The measures of kurtosis and skewness

Item (Green Marketing Mix and Purchase intention)	Skewness	Kurtosis
Green promotion		
The company devotes a special day to the environment.	-1.075	-.404
The company support holding seminars and conferences related to the environment.	-1.028	-.249
Employees of the company direct the customers to hour they can use the products in a way does not harm the environment.	-.753	-.387
Company Contribute to supporting the environmental centers.	-.522	-.496
Green place		
Products that are friendly to the environment are sold at distinguished agents.	-.138	-1.222
The company makes delivery easy.	-.213	-1.195
The company is keen to deal with agents in a friendly way to the environment.	-.681	-.041
The store in company is clean	-.829	-.205

Item (Green Marketing Mix and Purchase intention)	Skewness	Kurtosis
Green product		
The Company concentrates on Producing cosmetic the least percentage of the adverse reflections on the human beings.	-.328	-.624
The company contributes, in producing cosmetics with less pollution	-.294	-.110
There is effective control on the cosmetics that are produced by the company.	-.314	-.793
Company makes cosmetic that not tested on animals.	-.218	-.638
Green price		
It is noted that the company raises the prices of its food products which have harmful negative usage that happens because of misuse.	-.186	-1.030
High price of green foods sometimes stops me from purchasing them	.341	-.747
Price gap between the green foods and conventional foods is huge.	-.805	-.094
Price of the food Products Proportionate with their quality	-.527	-.578

4.4 Demographic Characteristics

This section discusses the profiles of the sample respondents among six demographic characteristics: gender, age, education, occupation, income, and cosmetic type.

4.4.1 Gender

The highest number of respondents were females at 62.5%. There were 37.5% males among the respondents. This might be since many females use cosmetic products compared to the males who normally use less of the products.

Table 4.7 Summary of respondent's gender

Gender	Frequency	Percent
Male	150	37.5
Female	250	62.5
Total	400	100.0

4.4.2. Age

From the findings, the highest number of respondents are of the age (20-25) years. They represent 43.8%. They are closely followed by those of the age (26-35) at 43.8%. Other participants' ages include (36-45), (46-54), and (above 54) at 5%, 8%, and 2.5%, respectively. The statistics in ages might be contributed by the composition of population in the study area.

Table 4.8 Summary of respondent's age.

Age	Frequency	Percent
20-25	175	43.8
26-35	163	40.8
36-45	20	5.0
46-54	32	8.0
above 54	10	2.5
Total	400	100.0

4.4.3 Education

Most of the respondents are undergraduates (65.8%). Postgraduate class forms 23.5%, whereas those who are lower than undergraduate level forms 10.8% of the respondents.

Table 4.9 Summary of respondent's education

Education	Frequency	Percent
Lower than undergraduate	43	10.8
Undergraduate	263	65.8
Postgraduate	94	23.5
Total	400	100.0

4.4.4 Occupation

For the respondents' occupation, students represented 43.5%, government/ state enterprises represented 10.8%, and private companies represented 24%, and self-employee / other represented 21.8%.

Table 4.10 Summary of respondent's occupation

Occupation	Frequency	Percent
Students	174	43.5
Government / state enterprise	43	10.8
Employee of private companies	96	24.0
Owner/ self-employee/ other	87	21.8
Total	400	100.0

4.4.5 Income

For the income, most respondents (39%) earn less than 3500 Yuan; this might be since most respondents are students or other reasons like wages ratio, salary class, etc. Respondents earning (3501-8500 Yuan) represented 21%, (8501-13500 Yuan) represented 29.3%, and (13501 or more) represented 10.8%.

Table 4.11 Summary of respondent's income

Income	Frequency	Percent
Less than 3,500 Yuan	156	39.0
3,501 – 8,500 Yuan	84	21.0
8,501 –13,500 Yuan	117	29.3
13,501 Yuan or more	43	10.8
Total	400	100.0

4.4.6. Cosmetic Type

For cosmetic types, most respondents (56.3%) frequently use lotion. Others like Primer, concealers, compact powders, blush, eye shadow, eye liner, mascara, and lipstick represented 8.8%, 1.8%, 5.5%, 11.8%, 0.3%, and 2.8%, respectively.

Table 4.12 Summary of respondent's cosmetic type

Cosmetic type	Frequency	Percent
primer	35	8.8
concealers	7	1.8
compact powders	22	5.5
blush	47	11.8
eyeshadow	1	.3
eye liner	12	3.0
mascara	11	2.8
lipstick	40	10.0
lotion	225	56.3
Total	400	100.0

4.5 Descriptive Statistics of Variables

This section displays different descriptive statistics used to describe the features of the surveyed sample population and all variables (purchase intention and green marketing mix).

4.5.1 Descriptive Statistics Analysis for Green Marketing Mix Variables

The green marketing mix variables: green promotion, green place, green product, and green price means, and standard deviations are displayed in the table below. The table reveals that the respondents emphasized more on green promotion (mean=3.91, Standard deviation=0.961), followed by green price (mean=3.41, standard deviation=0.708), then green place (mean=3.52, standard deviation=0.762), and the lowest component of green marketing mix is green product (mean=3.40, standard deviation=0.620). All the opinions were measured on a 5-point Likert scale (1=Lowest, 2=Low, 3=Moderate, 4=High, 5=Very high).



Table 4.13 Summary of green marketing mix attitudes

Green Marketing Mix	Attitude Level					\bar{X}	S.D.	Result
	very high	high	moderate	low	lowest			
Green Promotion								
• The company devotes a special day to the environment.	252 (63.00)	32 (8.00)	35 (8.75)	58 (14.50)	23 (5.75)	4.08	0.97	High
• The company support holding seminars and conferences related to the environment.	204 (51.00)	81 (20.25)	42 (10.50)	42 (10.50)	31 (7.75)	3.96	0.71	High
• Employees of the company direct the customers to hour they can use the products in a way does not harm the environment.	178 (44.50)	64 (16.00)	111 (27.75)	23 (5.75)	24 (6.00)	3.87	0.65	High
• Company Contribute to	134 (33.50)	91 (22.75)	125 (31.25)	31 (7.75)	19 (4.75)	3.72	0.52	High

	Attitude Level					\bar{X}	S.D.	Result
	very high	high	moderate	low	lowest			
Green Marketing Mix supporting the environmental centers.								
						Average	3.91	High
Green Product								
• Products are sold at distinguished agents	71 (17.75)	123 (30.75)	56 (14.00)	109 (27.25)	41 (10.25)	3.18	0.34	Moderate
• Company makes delivery easy	72 (18.00)	112 (28.00)	79 (19.75)	65 (16.25)	72 (18.00)	3.11	0.18	Moderate
• Companies deal with agents friendly to the environment harm the environment.	68 (17.00)	187 (46.75)	82 (20.50)	49 (12.25)	14 (3.50)	3.61	0.65	High
• The store in company is clean	125 (31.25)	138 (34.50)	71 (17.75)	33 (8.25)	33 (8.25)	3.72	0.49	High
						Average	3.41	High
• Company raises the prices of its products which have harmful	98 (24.50)	84 (21.00)	108 (27.00)	76 (19.00)	34 (8.50)	3.34	0.28	High

Green Marketing Mix	Attitude Level					\bar{X}	S.D.	Result
	very high	high	moderate	low	lowest			
negative usage that happens because of misuse.								
• High price of green products sometimes stops me from purchasing them.	40 (10.00)	65 (16.25)	106 (26.50)	131 (32.75)	58 (14.50)	2.74	37.4	Moderate
• Price gap between the green and conventional product is huge.	115 (28.75)	156 (39.00)	67 (16.75)	42 (10.50)	20 (5.00)	3.76	0.55	High
• Price of the products is proportionate with their quality.	125 (31.25)	122 (30.50)	97 (24.25)	46 (11.50)	10 (2.50)	3.76	0.5	High
	Average					3.40		High

4.5.2. Descriptive Statistics Analysis for Purchase Intention

The table below shows the mean and standard deviation of purchase intention. Means and standard deviations (mean=3.89, standard deviation=0.601). All the opinions were measured on a 5-point Likert scale (1=Lowest, 2=Low, 3=Moderate, 4=High, 5=Very high).

Table 4.14 Summary of purchase intention

Purchase intention	Attitude Level					\bar{X}	S.D.	Result
	very high	high	moderate	low	lowest			
• I plan to seek out environmental cosmetic products	158 (39.50)	112 (28.00)	96 (24.00)	22 (5.50)	12 (3.00)	3.95	0.61	High
• I will take more time to search for environmentally friendly alternatives to cosmetic products that I typically buy	153 (38.25)	123 (30.75)	99 (24.75)	12 (3.00)	13 (3.25)	3.97	0.64	High
• I plan to spend time searching company websites to	96 (24.00)	125 (31.25)	147 (36.75)	22 (5.50)	10 (2.50)	3.68	0.61	High

	Attitude Level					\bar{X}	S.D.	Result
	very high	high	moderate	low	lowest			
Purchase intention								
learn more about environmentally friendly options								
• I plan to Continue to purchase environmental cosmetic products in the future	124 (31.00)	134 (33.50)	142 (35.50)	0 (.00)	0 (.00)	3.95	0.73	High
	Average					3.89		High

4.6 Hypothesis Testing

In this section, the results of hypotheses of the study are discussed. There are five hypotheses in this study. They are:

H1: There is a different impact on demographic characteristics (gender, age, education, occupation, and income) and purchase intention.

H2: There is a positive relationship between green production and a customer's purchase intention of cosmetic products.

H3: There is a positive relationship between green promotion and a customer's purchase intention of cosmetic products.

H4: There is a positive relationship between green price and a customer's purchase intention of cosmetic products.

H5: There is a positive relationship between green placement (distribution) and a customer's purchase intention of cosmetic products.

For this study, hypothesis testing applies T-test, One Way ANNOVA and Person Correlation.

4.6.1 Demographic Characteristics and Purchase Intention

The first hypothesis of this study predicts that there is a different impact on the five demographic characteristics and purchase intention.

H0: There is no significant difference impact on the five demographic characteristics (gender, age, education, occupation, income level) and purchase intention.

H1: There is a significant difference impact on the five demographic characteristics (gender, age, education, occupation, income level) and purchase intention.

To test for these hypotheses, several diagnostics were carried out. The results are displayed in the tables below.

4.7.1.1 Gender (T-test)

The significant value for the two-tailed test gives a value of .000 (Equal Variances assumed). .000 is less than 0.05, that is, $.000 < 0.05$. We reject the hypothesis (H_0) This implies that gender has significant impact on the purchase intention of cosmetics. As show in table 4.17 below

Table 4.15 Comparison the purchase intention by gender

	Sex	\bar{X}	t	Sig.
Purchase Intention	Male	3.40	-1.244	.001*
	Famale	3.56		

4.7.1.2 Age

From the ANOVA table, the test statistic is the F value of 4.53. Using $\alpha = 0.05$, we have $F_{0.05;4,395} = 2.31$. Since the test statistic is much larger than the critical value, we reject the null hypothesis and conclude that there is a statistically significant

difference. Additionally, $0.01 < 0.05$, we reject the null hypothesis. Therefore, as the age of an individual increases, the purchase intention decreases.

Table 4.16 Comparison the purchase intention by Age

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.313	4	1.578	4.530	.000*
Within Groups	137.597	395	.348		
Total	143.910	399			

4.7.1.3. Education

From the table, the significance value is 0.347. $0.347 > 0.05$. We fail to reject the null hypothesis and conclude that education level positively impacts purchase intention.

Table 4.17 Comparison the purchase intention by Education

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.766	2	.383	1.063	.000*
Within Groups	143.144	397	.361		
Total	143.910	399			

4.7.1.4. Occupation

From the ANOVA table, the test statistic is the F value of 17.82. Using $\alpha = 0.05$, we have $F_{0.05; 3, 396} = 2.31$. Since the test statistic is much larger than the critical value, we reject the null hypothesis and conclude that there is a statistically significant difference. Additionally, $0.00 < 0.05$, we reject the null hypothesis.

Table 4.18 Comparison the purchase intention by Occupation

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	17.117	3	5.706	17.820	.000*
Within Groups	126.793	396	.320		
Total	143.910	399			

4.7.1.5 Income

The probability value (P-value) is greater than alpha. $0.688 > 0.05$. We fail to reject the null hypothesis (H_0) and conclude that there is no significant different impact on income and purchase intention.

Table 4.19 Comparison the purchase intention by Income

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.534	3	.178	.492	.688
Within Groups	143.376	396	.362		
Total	143.910	399			

4.7.2 Correlation Analysis Testing

Correlation analysis or bivariate correlations deals with finding out whether there exists a relationship between variables and determining the magnitude of the relationship as well as its action. Correlation does not mean causation. Correlation analysis evaluates and identifies the relationship between variables; however, a positive correlation does not entirely imply one variable affects the other. The bivariate correlations give room for preliminary information and inspection regarding the earlier hypothesized relationships.

Additionally, the correlation matrix gives information regarding the test for the presence of multicollinearity. From the table, there are no correlations near 1.0 (or

approaching 0.9 or 0.8) detected; this shows that multicollinearity is not a key problem in the data set. The table indicates that all the correlations are in the hypothesized positive relationship. All the four components of green marketing mix are significantly correlated with the purchase intention.

Table 4.20 Correlation Test Results

Green Marketing Mixes		green promotion	green place	green product	green price	Purchase intention
green promotion	Pearson Correlation	1	.371**	.388**	.435**	.699*
	Sig. (2-tailed)		.465	.000	.007	.048
green place	Pearson Correlation	.371**	1	.459**	.183**	.412**
	Sig. (2-tailed)	.465		.115	.000	.005
green product	Pearson Correlation	.388**	.459**	1	.506**	.163**
	Sig. (2-tailed)	.000	.115		.263	.001
green price	Pearson Correlation	.435**	.183**	.506**	1	.610**
	Sig. (2-tailed)	.007	.000	.263		.420
Purchase Intention	Pearson Correlation	.699*	.412**	.163**	.610**	1
	Sig. (2-tailed)	.048	.005	.001	.220	

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

* . Correlation is significant at the 0.05 level (2-tailed).

The table below gives a summary of hypotheses testing results for the relationship between the independent variables and purchase intention.

Table 4.21 Summary of the hypotheses

Item	Statement of Hypothesis	Remark
H1:	There is a positive relationship between different demographic characteristics and purchase intention	Partially Supported (Only gender, age, education, occupation significant different in the purchase intention)
H2:	There is a positive relationship between green promotion and purchase intention.	Supported
H3:	There is a positive relationship between green place and purchase intention.	Supported
H4:	There is a positive relationship between green product and purchase intention.	Supported
H5:	There is a positive relationship between green price and purchase intention.	Supported

4.8 Summary of the Chapter

This chapter presented the testing of hypothesized model and reported the results of the proposed research hypothesis. Additionally, it discussed the main findings used to answer the research questions. From the results, there is a positive relationship between green marketing mix and purchase intention of cosmetics.

CHAPTER 5

CONCLUSION

5.1 Summary of findings

The purpose of this study was to investigate the impact of green marketing mixes on consumers' purchase intention of cosmetic products. This section provides a summary of the key findings of the study in relation to each research question and objective.

Research Question 1: What is the relationship between green products, green price, green promotion, green place, and purchase intention of cosmetic products?

The findings suggest that there is a positive relationship between green products, green price, green promotion, green place, and purchase intention of cosmetic products. The results indicate that when consumers perceive cosmetic products as environmentally friendly, they are more likely to purchase them. Similarly, when consumers perceive that the price of the cosmetic product is reasonable in relation to its environmental benefits, they are more likely to purchase it. In addition, when consumers are exposed to green promotion that highlights the environmental benefits of the cosmetic product, they are more likely to purchase it. Finally, when consumers have access to cosmetic products in environmentally friendly locations, they are more likely to purchase it.

Research Question 2: Does the effect of green products, green price, green promotion, and green place on purchase intention of cosmetic products differ among consumers with different levels of environmental consciousness?

The findings suggest that the effect of green marketing mixes on purchase intention of cosmetic products does not differ significantly among consumers with different levels of environmental consciousness. In other words, regardless of the level of environmental consciousness, consumers are equally influenced by the green marketing mixes when making purchase decisions.

Research Question 3: To what extent do subjective norm and perceived behavioral control mediate the relationship between green marketing mixes and purchase intention of cosmetic products?

The findings suggest that both subjective norm and perceived behavioral control partially mediate the relationship between green marketing mixes and purchase intention

of cosmetic products. This means that consumers are more likely to purchase environmentally friendly cosmetic products when they feel that it is socially acceptable to do so (subjective norm) and when they believe that they can make the purchase (perceived behavioral control).

In summary, the findings indicate that green products have a positive effect on purchase intention of cosmetic products. When consumers perceive that cosmetic products are environmentally friendly, they are more likely to purchase them. The green price has a positive effect on purchase intention of cosmetic products. When consumers perceive that the price of cosmetic products is reasonable in relation to their environmental benefits, they are more likely to purchase them. The green promotion has a positive effect on purchase intention of cosmetic products. When consumers are exposed to green promotion that highlights the environmental benefits of cosmetic products, they are more likely to purchase them. Including, the green place has a positive effect on purchase intention of cosmetic products. When consumers have access to cosmetic products in environmentally friendly locations, they are more likely to purchase them.

The findings of this study suggest that green marketing mixes have a significant impact on consumers' purchase intention of cosmetic products. Specifically, the green product, green price, green promotion, and green place all play a critical role in influencing consumers' purchase decisions. Additionally, subjective norm and perceived behavioral control partially mediate the relationship between green marketing mixes and purchase intention of cosmetic products. These findings have important implications for cosmetic companies and marketers who wish to promote environmentally friendly cosmetic products. Based on these findings, it is recommended that cosmetic companies develop marketing strategies that emphasize the environmental benefits of their products, make their products available in environmentally friendly locations.

5.2 Discussion

The findings of this study align with previous research, as well as diverge in certain aspects. By examining the similarities and differences between this study and prior research, we can gain a more comprehensive understanding of the impact of green marketing on consumer behavior in the cosmetics industry.

Similarities with previous research:

Positive Attitude Towards Eco-Friendly Cosmetics: Consistent with prior research, this study found that consumers generally have a positive attitude towards eco-friendly cosmetics. This supports the idea that consumers are becoming increasingly environmentally conscious and are seeking out products that align with their values.

Green Marketing Mixes Impact Purchase Intention: The findings of this study corroborate previous research that suggests green marketing mixes, including green promotion, green product, green price, and green placement, have a positive impact on consumer purchase intention. This indicates that the implementation of green marketing strategies can successfully drive sales in the cosmetic industry.

Willingness to Pay a Premium: This study's results align with prior research that demonstrates consumers are willing to pay a premium for green cosmetics. This willingness can be attributed to a variety of factors, such as personal values, environmental concerns, and perceived product quality.

Differences from previous research:

Extent of Premium Willingness: While this study found that consumers are willing to pay a premium for green cosmetics, it also highlighted that the extent of this premium varies depending on the product category and the consumer's income level. This nuance has not been extensively explored in previous research and offers valuable insights for marketers when developing pricing strategies for eco-friendly cosmetic products.

Green Distribution Channels: This study contributes to the literature by examining the impact of green distribution channels on purchase intention, an area that has not been extensively researched in the context of the cosmetics industry. The findings suggest that green distribution channels can positively influence purchase intention,

indicating the importance of considering sustainable distribution methods when developing a comprehensive green marketing strategy.

This study contributes to the existing body of research on green marketing and consumer behavior in the cosmetics industry. The findings confirm previous research regarding consumers' positive attitudes towards eco-friendly cosmetics and their willingness to pay a premium for such products. Additionally, this study provides novel insights into the varying extents of premium willingness and the impact of green distribution channels on purchase intention. These findings have significant implications for marketers, as they offer valuable guidance on developing effective green marketing strategies that cater to consumers' evolving preferences and promote sustainability in the cosmetics industry.

5.3 Implications of the study

The findings of this study have important implications for marketing managers and policymakers in the cosmetics industry. Specifically, the study highlights the importance of implementing green marketing strategies to promote environmental conservation and increase purchase intention.

Green marketing has become an increasingly popular topic in the cosmetics industry, with many companies now marketing their products as environmentally friendly. However, the findings of this study suggest that simply labeling a product as "green" may not be sufficient to increase purchase intention. Instead, companies need to adopt a holistic green marketing strategy that considers all elements of the marketing mix.

One of the main implications of the study is the importance of product design in green marketing. The study found that consumers are more likely to purchase cosmetic products that are designed to be environmentally friendly. This suggests that companies need to consider the environmental impact of their products at the design stage and make changes to reduce their environmental footprint.

Another important implication of the study is the need for companies to communicate their green marketing efforts to consumers. The study found that consumers are more likely to purchase products from companies that are transparent about their environmental practices. Therefore, companies need to communicate their sustainability

initiatives to consumers through marketing communications, such as advertising and social media.

The study also has important implications for policymakers. Specifically, policymakers need to encourage companies to adopt green marketing strategies through regulation and incentives. For example, policymakers could offer tax incentives to companies that implement green marketing practices or mandate that companies report on their environmental practices.

The study suggests that green marketing is an effective strategy for promoting environmental conservation and increasing purchase intention in the cosmetics industry. However, companies need to adopt a holistic approach to green marketing and consider all elements of the marketing mix. Additionally, policymakers need to play a role in encouraging companies to adopt green marketing practices through regulation and incentives. By doing so, companies can promote environmental sustainability while also increasing their bottom line.

The implications of this study for marketing managers and policymakers are clear. Companies that adopt green marketing strategies can increase their competitiveness in the market and contribute to a more sustainable future. Policymakers, on the other hand, can play a role in encouraging companies to adopt green marketing practices through regulation and incentives. As the cosmetics industry continues to grow, it is essential that companies and policymakers work together to promote environmental sustainability and increase purchase intention through green marketing.

5.4 Limitations of the study

Despite the valuable insights that this study has provided, it is important to acknowledge its limitations. These limitations should be taken into consideration when interpreting the results and implications of the study. The following are the limitations of this study:

Sample Size, one of the limitations of this study is the sample size. The sample size used in this study was relatively small, which may limit the generalizability of the findings to other populations. The use of a larger sample size would have provided a more

representative picture of the population and would have increased the external validity of the study.

Sample Selection, the sample selection process may have introduced bias in the study. The sample was selected using convenience sampling, which may not have represented the population of interest. The use of random sampling would have provided a more representative sample and increased the external validity of the study.

Self-reported Data

The study relied on self-reported data, which may be subject to response bias. Participants may have responded in a socially desirable manner, leading to an overestimation of the relationship between green marketing and purchase intention. The use of objective measures, such as actual purchase behavior, would have provided a more accurate picture of the relationship between green marketing and purchase intention.

Directions To address the limitations of this study, future research should focus on the following:

- Using a larger sample size to increase the external validity of the study.
- Using random sampling to provide a more representative sample.
- Using objective measures, such as actual purchase behavior, to provide a more accurate picture of the relationship between green marketing and purchase intention.
- Examining the moderating effect of demographic variables such as age, gender, and income on the relationship between green marketing and purchase intention.
- Conducting cross-cultural studies to examine the generalizability of the findings across different cultures and regions.
- Despite these limitations, this study has provided valuable insights into the relationship between green marketing mixes and purchase intention of cosmetic products. The findings of this study have important implications for marketing managers and policymakers, as discussed in the previous section.

5.5 Recommendations for future research

Despite the valuable insights gained from this study, several limitations must be considered. This section will provide recommendations for future research to address these limitations and further explore the topic of green marketing in the cosmetic industry.

One limitation of this study is the sample size. The study was conducted with a sample of 400 participants, which may not be representative of the broader population of consumers. Future research could expand the sample size to provide a more diverse and comprehensive understanding of the relationship between green marketing mixes and purchase intention in the cosmetic industry. A larger sample size could also allow for the investigation of different demographic groups and their responses to green marketing.

Another limitation is the sample selection. The study recruited participants from a single university, which may not reflect the attitudes and behaviors of the wider population. Future research could target a more diverse sample by recruiting participants from different regions, cultures, and age groups. This could provide a broader understanding of how cultural and social factors influence purchase intention in the context of green marketing.

The use of self-reported data is another limitation of this study. Participants may have provided socially desirable responses, leading to potential bias in the results. Future research could use more objective measures, such as purchase records, to provide a more accurate understanding of consumer behavior in relation to green marketing.

In light of these limitations, several recommendations for future research can be made. First, future studies could investigate the effectiveness of different green marketing strategies in promoting purchase intention. For example, research could compare the impact of eco-labels, green packaging, and environmental claims on consumer behavior. This could provide insights into which strategies are most effective in promoting green consumption in the cosmetic industry.

Second, future studies could explore the impact of demographic factors on purchase intention in relation to green marketing. For example, research could investigate how age, gender, education, and income influence consumer behavior. This could provide insights into how different demographic groups respond to green marketing and inform the development of targeted marketing campaigns.

Third, future research could investigate the impact of green marketing on consumer loyalty and brand trust. Research could investigate how green marketing influences consumer perceptions of brand quality, reputation, and trust. This could provide insights into how green marketing can be used to build long-term relationships with consumers and promote brand loyalty.

This study has provided valuable insights into the relationship between green marketing mixes and purchase intention in the cosmetic industry. However, several limitations must be considered. Future research should address these limitations and further explore the potential of green marketing in promoting environmental conservation and increasing purchase intention. By doing so, the cosmetic industry can play a key role in promoting sustainable consumption and contributing to a more environmentally conscious society.

5.6 Implications

The study highlights the importance of green marketing strategies in the cosmetic industry. The findings suggest that consumers are increasingly concerned about the environment and are more likely to purchase cosmetic products that promote sustainability. The study has demonstrated that the green marketing mix can be an effective tool for enhancing purchase intention among consumers.

The implications of this study for marketing managers and policymakers are significant. It is important for marketers to understand the potential benefits of green marketing strategies and to incorporate them into their marketing plans. This can include developing eco-friendly product packaging, using environmentally friendly ingredients, and promoting sustainable practices in the manufacturing process. In addition, policymakers can encourage companies to adopt sustainable practices through regulations and incentives.

It is important to acknowledge the limitations of the study, including the sample size, sample selection, and the use of self-reported data. Future research should aim to address these limitations and expand on the findings of this study. For instance, future studies can explore the effectiveness of different green marketing strategies in different

cultural contexts, and the impact of demographic factors such as age, gender, and education on purchase intention.

The cosmetic industry has the potential to play a significant role in promoting sustainability and environmental conservation. By incorporating green marketing strategies, companies can increase consumer satisfaction and loyalty while also contributing to a better future for the planet. It is important for marketers, policymakers, and consumers to work together to promote sustainability and make the cosmetic industry more eco-friendly.

5.7 Conclusion

The purpose of this study was to investigate the relationship between green marketing mixes and purchase intention of cosmetic products. The study was guided by four research questions and objectives, which focused on the impact of different green marketing mixes on purchase intention. The findings of the study provide insights into the importance of green marketing strategies in the cosmetic industry and their potential impact on consumer behavior.

The first objective of the study was to examine the relationship between environmental policies and purchase intention. The findings revealed that environmental policies significantly influenced purchase intention, indicating that consumers are more likely to purchase cosmetic products from companies with strong environmental policies. This highlights the importance of implementing environmental policies and communicating them to consumers to increase purchase intention.

The second objective of the study was to investigate the impact of green product design on purchase intention. The findings showed that green product design had a positive effect on purchase intention, suggesting that consumers are more likely to purchase cosmetic products that are eco-friendly and sustainable. This underscores the importance of incorporating green product design into the cosmetic industry to promote sustainability and increase purchase intention.

The third objective of the study was to explore the relationship between green pricing strategies and purchase intention. The findings indicated that green pricing strategies had a significant impact on purchase intention, suggesting that consumers are

willing to pay a premium for eco-friendly and sustainable cosmetic products. This highlights the importance of implementing green pricing strategies in the cosmetic industry to promote sustainability and increase purchase intention.

The fourth objective of the study was to examine the impact of green promotion strategies on purchase intention. The findings showed that green promotion strategies had a positive effect on purchase intention, indicating that consumers are more likely to purchase cosmetic products from companies that engage in eco-friendly and sustainable promotion strategies. This emphasizes the importance of incorporating green promotion strategies into the cosmetic industry to promote sustainability and increase purchase intention.

The findings of this study suggest that green marketing strategies are important in the cosmetic industry to promote sustainability and increase purchase intention. The implications of the study are significant for marketing managers and policymakers in the industry, as it highlights the importance of implementing green marketing strategies to promote environmental conservation and increase purchase intention.

However, the study has several limitations that should be acknowledged. The sample size was relatively small, and the sample was limited to female consumers in one geographic region. Additionally, the study relied on self-reported data, which may be subject to bias. Future research could address these limitations by using a larger and more diverse sample and by incorporating objective measures of purchase intention.

This study contributes to the existing literature on green marketing and its potential impact on consumer behavior in the cosmetic industry. The findings of the study highlight the importance of promoting sustainability in the industry and the potential for green marketing strategies to increase purchase intention and consumer satisfaction.

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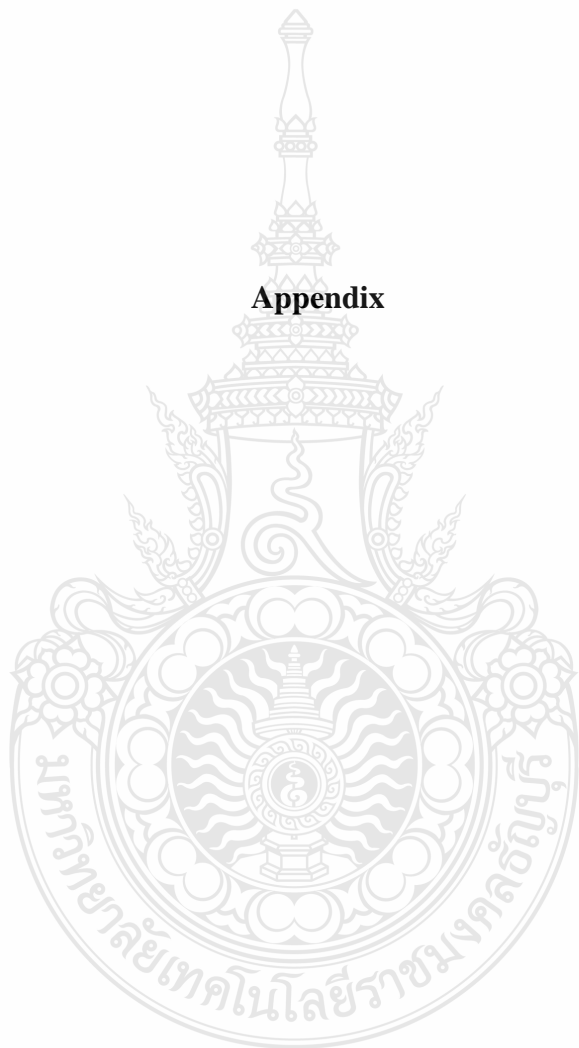
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Appendix



Appendix A
Questionnaire



Title: The Relationship between Green Marketing Mixes and Purchase Intention of Cosmetic Products.

Part 1 General information of respondents

Instruction: Please put a mark ✓ in the box that best matches the truth.

1. Gender

1. Male 2. Female

2. Age

1. 20 - 25
 2. 26 - 35
 3. 36 - 45
 4. 46 - 54
 5. Above 54

3. Education

1. Lower than Undergraduate
 2. Undergraduate
 3. Postgraduate

4. Occupation

1. Students / students
 2. Government / state enterprises
 3. Employees of private companies
 4. Owner / self-employed / others
 5. Unemployed

5. Income

1. Less than 3,500 Yuan
 2. 3,501 – 8,500 Yuan
 3. 8,501 –13,500 Yuan
 4. 13,501 Yuan or more

6. Type of cosmetic use frequently

- 1 primer
 2 concealers

- 3 Foundation
- 4 compact powders
- 5 Blush
- 6 Eye shadow
- 7 Eye Liner
- 8 Mascara
- 9 Lipstick
- 10 Lotion

Part 2 Green Marketing Mix. (Mahmoud, T. O., Ibrahim, S. B., Ali, A. H., & Bledy, A., 2017).

Instruction: Please put a mark ✓ in the box “opinion level” in the level that you think is most accurate to the truth.

Items	Green Marketing Mix	opinion level				
		Very	High	Mode	Low	lowest
	Green promotion					
7	The company devotes a special day for the environment.					
8	The company support holding seminars and conferences related to the environment.					
9	Employees of the company direct the customers to hour they can use the products in a way does not harm the environment.					
10	Company Contribute to supporting the environmental centers.					
	Green place					

Items	Green Marketing Mix	opinion level				
		Very	High	Mode	Low	lowest
11	Products that are friendly to the environment are sold at distinguished agents.					
12	The company make delivery is easy.					
13	The company is keen to deal with agents friendly to the environment					
14	The store in company is clean					
	Green product					
15	The Company concentrates on Producing cosmetic the Least percentage of the adverse reflections on the human beings.					
16	The company contributes, in producing cosmetics with less pollution					
17	There is effective control on the cosmetics that are produced by the company.					
18	Company makes cosmetic that not tested on animals.					
	Green price					
19	It is noted that the company raises the prices of its food products which have harmful negative usage that happens as a result of misuse.					
20	High price of green foods sometimes stops me from purchasing them					
21	Price gap between the green foods and conventional foods is huge.					
22	Price of the food Products Proportionate with their quality					

Part 3 Purchase Intention

Instruction: Please put a mark ✓ in the box “practise level” in the level that you think is most accurate to the truth.

Item	Purchase Intention	Practise level				
		Very	High	Moder	Low	lowest
		5	4	3	2	1
23	I plan to seek out environmental cosmetic products.					
24	I will take more time to search for environmentally friendly alternatives to cosmetic products that I typically buy.					
25	I plan to spend time searching company websites to learn more about environmentally friendly options.					
26	I plan to continue to purchase environmental cosmetic products in the future.					

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