

Faculty of Business

**“THE IMPACT OF GREEN BRAND ELEMENTS ON CONSUMER
LOYALTY FOR GREEN COSMETICS AFTER COVID 19 OUTBREAK IN
MALAYSIA”**

Jaweria Iqbal

0000-0002-1170-3874

This thesis is presented for the Degree of Master of Philosophy

of

School of Business

Curtin University

October 2023

Declaration

“To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgment has been made. This thesis contains no material which has been accepted for the award of any other degree or diploma in any university. I thus state that everything in this essay is completely my own work, and all outside sources have been properly cited. I hereby certify that all relevant sources, whether published or unpublished, from which whatever text has been quoted has been adequately cited both in the text and within the reference section. I am aware that if I don't accomplish this, my thesis will be rejected for being plagiarized.”

“For initiatives involving human participation, (tissue, human ethics etc.) The study described and reported in this thesis was carried out in compliance with the National Statement on Ethical Conduct in Human Research, which was amended in March 2014 by the National Health and Medical Research Council. The Curtin University Human Research Ethics Committee granted approval for the planned research study (EC00262), Approval Number # (HRE2022-0280)”

Signature:*Jaweria*

Date: ...30/5/2023.....

Table of Contents

Abstract.....	vi
Keywords	vii
Acknowledgements	viii
Chapter 1 - Introduction.....	1
1.0. Overview of the Chapter	1
1.1: COVID 19 - a blessing in disguise	1
1.2: Background of the study	2
1.2.1: COVID 19 outbreak	2
1.2.2: Evolution from Non-Green Marketing to Green Marketing.....	3
1.2.3. Green Branding.....	4
1.2.4. Importance of green branding before COVID 19 outbreak	5
1.3. Problem statement	10
1.4. Research gap.....	14
1.4.1. Theoretical gaps	14
1.4.2. Managerial gaps	15
1.5. Research questions.....	15
1.6. Research objectives.....	16
1.7. Significance of the study	16
1.8. Scope of the study.....	18
1.10. Novelty of the study	19
1.11: Organization of thesis	20
Chapter 2 – Literature Review	21
2.0. Overview of the Chapter	21
2.1: The conception of Green Branding.....	21
2.1.1: Why do businesses opt for green branding?	22
2.1.2: Consumer demographics & psychographics and their behavior towards brands.....	23
2.2: The Cosmetic Industry	24
2.2.1: What are cosmetics?.....	24
2.2.2: The trends	25
2.2.3: The cosmetics industry of Malaysia.....	26

2.2.4: Green cosmetics	27
2.2.5: Green Consumerism: A Vital Link to Eco-market	30
2.2.6. Green brands and COVID 19.....	33
2.3: Underpinning theory - Value – Norm – Belief (VBN) Model:	33
Figure 2.1: Underpinning theory	34
2.3.1: Building blocks of VBN.....	34
2.3.2: Values/attitudinal factors and beliefs (GBK, GBT and GBA).....	35
2.3.3: Personal norms (consumer perceptions).....	36
2.3.4: Behavior (consumer loyalty)	36
2.3.5: Application	37
2.3.6. Integration of VBN Model in the Post COVID 19 scenario:	37
2.4: Proposed Research framework	38
2.5: The hypothesis development	40
2.5.1: Green brand knowledge and consumer perceptions.....	40
2.5.2: Green brand trust and consumer perceptions.....	42
2.5.3: Green brand attachment and consumer perceptions.....	44
2.5.4: Consumer perceptions and consumer loyalty	46
2.5.5: Mediating role of Consumer perceptions between GBK and Consumer loyalty	48
2.5.6: Mediating role of Consumer perceptions between GBT and Consumer loyalty	50
2.5.7: Mediating role of Consumer perceptions between GBA and Consumer loyalty	52
2.6: Chapter Summary	54
Chapter 3 – Methodology	56
3.0: Overview of the Chapter	56
3.1: Research Paradigms	56
Philosophical assumptions to underpin the research inquiry	57
3.2: Research design	59
3.3 Research approach.....	61
Descriptive study	61
3.4: Population and unit of analysis.....	62
3.5: Target respondents.....	62
3.6: Research instrument.....	62
Measurements of the construct.....	63
3.7: Sampling	67

3.7.1: Sampling technique.....	67
3.7.2: Sample size.....	68
3.7.3: Recruitment process.....	68
3.8: Data collection procedure.....	69
3.8.1: Pilot study.....	69
3.8.2: Actual data collection.....	70
3.9: Ethical considerations of the study.....	70
3.9.1: Informed consent.....	70
3.9.2: Anonymity and confidentiality.....	70
3.9.3: Consent form.....	71
3.10: Data Analysis.....	71
3.10.1: SEM-PLS.....	72
3.10.2: Validity and reliability.....	72
3.11. Pilot study (preliminary findings).....	73
3.11.1. Descriptive Statistics.....	74
3.12: Chapter Summary.....	77
Chapter 4 – Results and Analysis.....	78
4.0. Overview of this chapter.....	78
4.1. Data Analysis.....	78
4.2. Assessment of Measurement Model.....	78
4.2.1. Construct Reliability and Validity.....	83
4.3. Partial Least Squares - Structural Equation Modelling.....	89
4.3.1. Phases of the study.....	90
4.3.1 Phase 1 – Data Exploration.....	92
4.3.2. Phase 2 - Descriptive Statistics.....	96
4.3.3. Evaluation of Measurement Model.....	99
4.4. Evaluation of Structural Model.....	103
4.4.1. Direct Relationships - Path Coefficient.....	105
4.4.2. Total Indirect Effects.....	107
4.5. Chapter Summary.....	108
Chapter 5 – Discussion of Findings.....	108
5.0. Overview of the chapter.....	108
5.2. Summary of findings.....	109

5.2.1. Green Brand Knowledge positively influences Consumer Perceptions	109
5.2.2. Green Brand Trust negatively influences Consumer Perceptions.....	110
5.2.3. Green Brand Attachment positively influences Consumer Perceptions	111
5.2.4. Consumer Perceptions positively influences Consumer Loyalty.....	113
5.2.5. Consumer perceptions mediates the relationship of Green Brand Knowledge and Consumer Loyalty	114
5.2.6. Consumer Perceptions mediates the relationship of Green Brand Trust and Consumer Loyalty	115
5.2.7. Consumer perceptions mediates the relationship of Green Brand Attachment and Consumer Loyalty	115
5.3. Implications of the study	116
5.3.1. Theoretical implications	118
5.3.2. Practical implications	119
5.4. Limitations of the study	120
5.5. Directions for future research	121
5.6. Conclusion.....	122
Appendices.....	124
Appendix 1 (A) – Research instrument for data collection i.e. Questionnaire in English	124
Appendix 1 (B) – Research instrument for data collection i.e. Questionnaire in Malay	128
Appendix 2 (A) – Recruitment Material – Text to be posted on social media to acquire participants (English)	132
Appendix 2 (B) – Recruitment Material – Text to be posted on social media to acquire participants (Malay)	133
Appendix 2 I – Participant information sheet (English)	134
Appendix 2 (D) – Participant information sheet (Malay)	135
Appendix 2 (E) – Consent Form (English)	137
Appendix 2 (F) – Consent Form (Malay)	138
Appendix 2 (F) – Questionnaire for actual study (with amendments).....	140
Appendix 3 – Recruitment process.....	147
Appendix 4 - References.....	151

Abstract

Since 1980s, the green marketing has been through tremendous transformation as a business strategy. Businesses understand the value of green marketing practices for their brands, and as a result, "green" has been incorporated into their branding to gain a competitive edge in the cosmetics market. Green branding has benefited greatly from the resurgence of consumer environmental consciousness after the COVID 19 outbreak. This research study offers a thorough understanding of green brand components and how they influence consumer loyalty in Malaysia's cosmetics market after the COVID 19 outbreak. Green branding can be seen as the paradigm shift in many businesses as it has changed the way in which the business goes about reaching the consumers after pandemic times. Businesses are revising their brand elements as per the changing needs of the consumers. Though green brands are seen to have grabbed a lot of attention in the past few years, the behavior of consumers towards green cosmetics brands after the outbreak of COVID 19 in Malaysia is not much explored. After the outbreak, consumer perceptions towards green products and brands have significantly changed because of the heightened attention to self-care & wellbeing which arises a need to study this subject matter in detail. Green cosmetics have a great potential to drive the green economy. Perusing these concerns with regards to consumer loyalty, this study aims to examine the Green Brand Knowledge (GBK), Green Brand Trust (GBT) & Green Brand Attachment (GBA) (collectively referred to as green brand elements) and their impact on consumer loyalty after COVID 19 outbreak for cosmetic brands in Malaysia by considering the role of consumer perceptions as the mediating variable. These green brand elements are described and are given the green context based on the previous literature. This is a quantitative study based on positivism conducted on consumers who consume cosmetic products in Malaysia. For this quantitative study, female consumers throughout Malaysia are focused as they are optimal contributors to the cosmetics industry of Malaysia. This research is expected to be useful for the development of "green brands" and will directly benefit the Malaysian cosmetics industry. The findings of this study suggest that Green Brand Elements have significant positive impact on the consumer loyalty for green cosmetics after the outbreak of COVID 19 in Malaysia. The study offers an appropriate perspective for fresh ideas in green marketing in line with environmental trends, initiatives, and favorable brand perception to enhance consumers' confidence to use green cosmetics. The findings of this study provide fruitful insights for the cosmetics businesses and their brand managers to understand the dynamicity of the consumer

behavior after COVID 19 and directly benefits the cosmetics industry of Malaysia and the overall global green economy.

Keywords

Green Marketing, Green Branding, Green Consumer, Green Cosmetics, Malaysian Cosmetics Industry, Green Brand Knowledge, Green Brand Attachment, Green Brand Trust, Consumer Perceptions, Consumer Loyalty

Acknowledgements

I want to take this opportunity to express my sincere gratitude to everyone who made it possible for me to succeed! First of all, I want to express my gratitude to the Almighty Allah for His mercy and knowledge during the course of this investigation.

Second, I want to express my gratitude to my supervisory team, particularly Dr. Shamsul Kamariah Bt. Abdullah. She has been a fantastic resource for direction and counsel. Her generous, caring, and compassionate relationships have been extremely helpful to me thus far in my MPhil. Sham, I will always be grateful for your important contribution.

I'm also grateful to Dr. Tiong Ying Ying, my co-supervisor. She has been really approachable and laid-back. She always responded to my academic problems and worked hard to find solutions, so at times I thought of her as a friend. Additionally, I value the helpful criticism she provided as my work progressed.

Additionally, I want to express my gratitude to my cherished family, whose unwavering love, support, and compassion gave me the confidence to accomplish my life's objectives. Their invaluable assistance in taking care of family business when I had away occasionally really helped me out and improved both my academic performance and my overall character. They have my eternal gratitude for having faith in me. Simply expressing my gratitude in the face of their moral, intellectual, and spiritual support and prayers feels pointless to me.

"Last but not least, I would want to express my gratitude to the lovely and aspirational women who consented to take part in my study. They made a significant contribution that could not have been achievable without for this study.

Chapter 1 - Introduction

1.0. Overview of the Chapter

This chapter aims to provide an introduction about the study and overview of the thesis structure and its content. Chapter 1 is the introduction which includes the information about the background of the study, definition of main concepts and terms of each concept and overview of the cosmetics industry. All the variables are defined in each subsection. It aims to develop the basic understanding about the variables. Also, it identifies the major research gaps which this study will address. The research questions, research hypothesis and theoretical framework of the study is also discussed in this chapter. The chapter ends with the discussion of significance and scope of the study.

1.1: COVID 19 - a blessing in disguise

The global uncertainty and environmental concerns erupted due to the unexpected outburst of COVID 19 have made the consumers question their lifestyle and buying preferences in so many ways (He and Harris 2020). It is evident that green marketing initiatives and consumer buying behavior are related. (Veena and Kumar 2021, Park et al. 2010). Green marketing demonstrates how a business is dedicated to quality, safety, and sustainability and is deserving of consumers' trust. (Veena and Kumar 2021, Talvinen and Saarinen 1995). As more and more people has concerned about synthetic products, consumers are looking for companies that practice transparency and honesty. Consumers are becoming more and more demanding on environmentally friendly cosmetic products that are also safe for the planet. The market for eco-friendly cosmetics is thus expanding rapidly. Cosmetic companies can reestablish themselves both environmentally and commercially by using raw, natural materials. Not only that, brands are ensuring honesty and transparency by developing safe and reliable products that celebrate all forms of beauty through an extensive makeup and skincare portfolio. By moving towards sustainable, green products, consumers are seen to have more global and social awareness. This promotes consumer loyalty to a brand, not just to products. Although the coronavirus has widely affected the entire globe, causing economic turmoil, financial unrest, and panic, it also poses a wide opportunity to the marketers, especially in the domain of green marketing. Therefore, during pandemic times, going green would not only build the reputation of the firm and brands, but will

also attract and retain its consumers which will eventually bring down production costs for the brands and result in profitability and will also benefit the society at large (Veena and Kumar 2021).

1.2: Background of the study

Consumers are increasingly looking for the products that correspond with their beliefs, and there has been a noticeable trend towards environmental sustainability or environmental consciousness in the worldwide market in recent years. In the cosmetics sector, where the idea of "green cosmetics" is gaining popularity, this trend has become particularly noticeable. Due to increased consumer awareness of environmental issues, which has been further highlighted by the COVID-19 pandemic, green cosmetics, which are distinguished by their ecologic and sustainable qualities, have attracted attention. In relation to the topic of green cosmetics, this literature review aims to investigate how consumer loyalty and green brand elements interact, with an emphasis on the COVID 19 environment in Malaysia.

1.2.1: COVID 19 outbreak

The initial phase of this outbreak was reported in the seafood wholesale wet market in Wuhan, Hubei, China which involved 66% of their staff (Ciotti et al. 2019). The market was shut down in January 2020 after it was announced by the local health authority that there is an epidemiologic alert (Ciotti et al. 2019). Unfortunately, this epidemic was rampantly spread across several provinces and cities of China including Hubei, Zhejiang, Henan, Hunan, Guangdong, Beijing, Shanghai etc. and affected thousands of people (Ciotti et al. 2019). Not only that, but this disease also travelled across borders to other countries including, Vietnam, Germany, Japan, Korea, United States, Thailand and Singapore (Ciotti et al. 2019). A total of 28,276 cases were confirmed by World Health Organization (WHO) on February 6th, 2020, which included 565 deaths globally from 25 countries (Ciotti et al. 2019). Later, the pathogen of this outbreak was identified as novel beta-coronavirus which was well along named 2019 novel coronavirus (2019-nCoV) (Ciotti et al. 2019). Coronavirus recalled the terrible memories of the severe acute respiratory syndrome (SARS-2003) which was also caused by another beta-coronavirus 19 years ago (Ciotti et al. 2019). A number of shifts in consumer behavior were triggered by the COVID 19. Due to travel constraints and rising hygiene consciousness, consumers started using e-commerce platforms to make their purchases. The pandemic had a variety of effects on the cosmetics market, including a rise of demand for cosmetics and hygiene-related goods. But it also led to a greater understanding

of issues like safety, health, and the substances in cosmetics. This situation demands an investigation into how green brand components affect customer loyalty in an environment following the pandemic (Ayob et al. 2016, Bhardwaj et al. 2020, Euromonitor 2014, He and Harris 2020).

The COVID 19 outbreak's aftermath offers a distinctive environment for consumer behavior. Businesses that modify their marketing tactics to reflect shifting consumer preferences like sustainability and health awareness are likely to enjoy higher levels of brand loyalty. Consumers are now more likely to support firms that show a commitment for social and environmental responsibility, according to recent surveys.

1.2.2: Evolution from Non-Green Marketing to Green Marketing

Concerns about the state of the earth and its limited resources first emerged in the 1960s, when scientific and technological advancements began to take off (Zinkhan and Carlson, 1995). Consumers had to consider if the resources of the globe were enough to maintain their standard of living throughout the 1970s due to rising oil prices (Haytko and Matulich, 2008). Research on environmental concerns at this time and the rest of the 1980s was primarily concerned with political change in relation to the use of natural resources. Consumers were largely unaware of how material products and services affected the environment (Finisterra do Paco et al., 2009). The 1990s heralded the start of "the earth decade" and a brand-new consumer trend. The necessity for green marketing was also sparked by the earth decade, which also sparked the development of greener products. According to a 1991 survey, 90% of American shoppers were worried about how their purchases might affect the environment (Schuhwerk and Lefkoff-Hagius, 1995). Companies and organizations boosted the production of environmentally friendly goods and services while trying to maximize profits as consumers placed more priority on environmental and social issues (Finisterra do Paco et al., 2009).

Even though the industry for green products grew significantly in the 1990s, there were still issues. Several businesses were discovered to have misrepresented their environmental commitment at this time. Companies frequently promoted new environmentally friendly consumables, yet the products and services were either unmodified or the ecological claims were unsubstantiated (Montague and Mukherjee, 2010). This technique is known as "greenwashing," and it refers to any deceptive business tactics or false advertising that actively misleads consumers (Vermillion and

Peart, 2010). Due to greenwashing, businesses risked long-term client relationships for immediate profits and sales, and consumers gained a profound mistrust for many organizations' environmental efforts (Zinkhan and Carlson, 1995).

For preventing deceptive advertising and reducing consumer mistrust, the Federal Trade Commission (FTC) published regulations and recommendations regulating the manipulation of environmental claims in 1992. (Montague and Mukherjee, 2010). To further address this problem, the FTC and the Environmental Protection Agency (EPA) collaborated to publish an essay titled "Sorting out 'green' advertising claims" in 1999. Greenwashing is still a problem, despite the aggressive measures that were implemented (Montague and Mukherjee, 2010), and green brands and companies continue to actively work with the government to stop businesses from deceiving consumers (Vermillion and Peart, 2010)

Consumers that care about the environment may unquestionably be a lucrative market niche (Smith and Brower, 2012). According to research, utilizing green marketing or going green can improve a company's reputation, which can increase sales and loyalty among customers (Montague and Mukherjee, 2010). Companies can achieve two objectives by releasing environmentally friendly products and services on the market. These goods and services can first meet the needs of consumers who are already concerned about the environment, and they can also offer consumers the chance to develop their own environmental awareness (Zinkhan and Carlson, 1995).

The word "green" received the attention in the era of 1970s when in 1975, the American Marketing Association conducted the first-ever workshop on the issue of green which further lead to the publishing of the very first book on this topic (book: "Ecological Marketing) (Adinyra and Gligui 2011). Afterwards, , under the umbrella of environmental marketing, commonly referred to as green marketing, a variety of labels have been given to the practices and behaviors of offering environmentally and ecologically sound goods and services to the consumers. (Adinyra and Gligui 2011).

1.2.3. Green Branding

Businesses are continually challenged to change their perceived value in order to remain relevant with evolving consumer expectations. Branding is the process of developing a different identity for products or services in the minds of consumers. It aims to establish a distinguishable position

in a market by conveying a consistent theme throughout all components of brand (including its name, logo, and slogan), thereby gaining, and retaining existing consumers (Kotler & Armstrong, 2010). Green branding, likewise, is a construct made up of two phrases: *branding*, as previously described, and *green*, which refers to just about any service or product that is environmentally friendly (Stevenson, 2010.) Thus, through brand communication and a distinct set of brand actions and advantages linked to decreased environmental effect.

Green Branding is a topic under the broader argument of green marketing which is the marketing of services and products which are presumed to be environmentally safe is the process of developing a different identity for products or services in the minds of consumers (Kotler & Armstrong, 2010). Later, researchers defined green branding as the entirety of all the processes which are involved in the creation of products and services which are associated with the conservation of environment by the consumers (Danciu 2015).

Green branding encompasses a company's whole identity, including its name, symbol, logo, service and product design, raw material procurement, and communications. A desire to achieve long-term transformative change should be at the heart of any business that engages in green branding (Manjunath, 2014). The goal of developing a green brand, according to its definition, is to help businesses achieve their goals by making optimal use of the world's limited resources inside the face of unending consumer demands. The concept of “green branding” has become a major concern for all engaged stakeholders in the marketing and branding process, including consumers of consumer goods after the outbreak of COVID 19.

1.2.4. Importance of green branding before COVID 19 outbreak

Brands are opting green branding for the following reasons including but not limited to:

1. Brands believed that reducing their carbon footprint, or contribution to global carbon dioxide emissions, is a moral obligation (Freeman & Liedtka, 1991).
2. Another reason companies adopted green branding is that the biodiversity loss was prompting most countries to enact regulations and laws to ensure that businesses are more environmentally conscious. International regulatory authorities such as United Nations (UN) is placing restrictions on trade on countries which contribute significantly to carbon

emissions, compelling businesses in all those countries to become more environmentally conscious (NAAG, 1990).

3. Successful environmentally conscious initiatives by competitors put pressure on brands to go green as well in order to stay competitive. Companies that go green, for example, save money on trash disposal, energy usage, raw material sourcing, and conversion. As a result, the lower production cost allows them to increase their profit margin while also making their products or services more appealing to environmentally concerned consumers (NAAG, 1990).

1.2.4.1. Importance of green cosmetics

Green cosmetics are becoming more popular as a result of their long-term health benefits. It is a symbol of both health and environmental well-being. In the cosmetics sector, there is a significant lot of accountabilities (Women with Mind, 2019). In this new world, going green is a must. Cosmetics have evolved into a kind of self-care and environmental stewardship (Lin et al., 2018). Hundreds of thousands of businesses and individuals have been motivated by the favorable demand. Green cosmetics are already being produced and sold by providers (Green Choices, 2012). Previously, a study conducted on green cosmetic brands indicated that green cosmetics are the natural cosmetics which support sustainability increase (Csorba and Boglea 2011). Over the years this context has widened which emphasis that green cosmetics brands are the brands having no harmful chemicals, natural ingredients, minimum recyclable packaging, and no animal testing and are organic (Lin et al. 2018).

Cosmetics by green brands are found to generate USD 195.98 billion till 2020 as per the report of Grand View Research Inc. in 2015. The category of skin care products alone was expecting a growth at a compound annual growth rate of 9.8% (Bempong 2017). This growth has been predicted between the years of 2014 to 2020 (Bempong 2017). The fact why consumers prefer green cosmetic products over the traditional is because of the appeal of this cosmetics to be absorbed safely in the body because of the ingredients used to make them (Bempong 2017). Also, another popular school of thought says that the use of petroleum products such as petroleum jelly or mineral oil which is a by-product of crude oil and is used for the purpose of giving the shine and glide to the cosmetics is harmful for the skin and human body (Bempong 2017). Moreover, a compound called Polycyclic Aromatic Hydrocarbons (PAHs) is considered to be carcinogenic

which means that they are the reason of causing cancer (Abdel-Shafy and Mansour 2016). These PAHs are present in the petroleum as a by-product is a contaminant even though it's a popular choice for the repair of skin including minor cuts and burns (Abdel-Shafy and Mansour 2016).

1.2.4.2. The industry dynamics

In the cosmetic industry, natural and organic ingredients have been used throughout times but since the consumers were not well-aware of the environmental issues, using these natural resources in cosmetic industry was not important (Bempong 2017). The industry is essentially dealing with constantly evolving beauty routines, techniques, and practices, which are influenced by the global trends (Bempong 2017). Hence, global growth in environmental awareness has been reflected in the cosmetic industry as well (Bempong 2017). Consumer have been seen to already value products that are not harmful the environment, health, or animals (Kirssi 2017). Moreover, consumers are looking for products that support fair trade (Kirssi 2017). Thus, companies are forced to invest in adapting green marketing strategies, as the issue is emerging also in the cosmetic industry (Kirssi 2017).

The consensus is that perception in consumers within the cosmetic industry is influenced by environmental factors (Quoquab and Mohammad 2020). Consumers have become more concerned about their wellbeing due to the awareness about the green products which has mobilized the production and sales of green products all over the world (Quoquab and Mohammad 2020). Globally, the green products sales were increased in 2011 from \$209 billion to \$845 billion in 2015 and this growth was observed in the cosmetics industry too (Quoquab and Mohammad 2020). This inclination towards green products and brands are evolving and this topic seems to be progressing into a variety of green themes significantly relevant to consumer buying behavior (Quoquab and Mohammad 2020)

1.2.4.3. Value of "green"

Previous research found that a pandemic outbreak can cause major disruptions on production, investment and consumer expenditure (Jung et al. 2016). Several researchers attempted to examine the consumer buying preferences towards cosmetic brands (Ayob et al. 2016, Euromonitor 2014, Hassali et al. 2015). The environmental pressure is building up since the past couple of years (Chen, Shang, and Kao 2009). A study conducted in 2009 suggested the companies to develop new business models that can secure compliance with the popular green trends (Chen, Shang, and

Kao 2009). COVID 19 crisis increased the inclination of consumers' green product consumption (Qi, Yu, and Ploeger 2020). With regards to previous pandemics, approximately two-thirds of consumers reported that the pandemic has caused them to incline towards organic products because of their growing health concerns (Chen, Shang, and Kao 2009).

COVID 19 crisis are likely to influence consumer perceptions of health and risk, which in turn changes consumer sensitivity and beliefs and results in a further increase in organic consumption (Qi, Yu, and Ploeger 2020). As consumer inclination towards green products is increasing, brands are opting green branding as an approach to engage the consumers in new and evolving ways (Knowles et al. 2020). COVID 19 has increased the number of environmentally conscious and are likely to purchase green brands (Knowles et al. 2020).

The cosmetics product producers are realizing this very fast that they need to get the green seal of approval from the consumers for their brands in order to get a competitive edge in the market and to excel in the industry which means that the cosmetics producers are increasingly using the eco-labels which is presented as a voluntary environmental performance certification of labeling and is used to identify a product or service as a preferable option (Salman 2016). With this change in consumer consumption and purchase patterns, the brands are altering their brand elements to retain the consumers so optimistically, COVID 19 has brought a bundle of opportunities for brands who are proactive to modify their brand elements into green brand elements.

1.2.4.4. The paradigm-shift in Malaysia

Malaysian consumers were found to be inclined towards cosmetic products of a particular brand and their perception of quality was also based on the brand they are buying (Ayob et al. 2016). It was also found that consumers in Malaysia purchasing green cosmetic products over chemical cosmetics for the fact that many of them are banned internationally due to the usage of poisonous substances like petroleum and triphenyl phosphate in them (He and Harris 2020). As such, it is needed to shift the conventional purchase behavior to green purchase behavior to reduce the negative impact on the environment and health (He and Harris 2020).

The Malaysian cosmetics sector has recently been negatively impacted by the social anxiety factor brought on by COVID 19. A contact and face-to-face service is provided by the cosmetics sector. People therefore avoid going to enclosed places or buildings that serve many purposes. Due to the

proximity of cosmetic stores to one another as a multi-use facility, consumers are visiting them less frequently out of concern for COVID 19 transmission. It is said that there are a lot of people packed into a small area, and that consumer fear has caused the population to decline. This prevented interaction with lots of people and discovered that they preferred visiting a one-person cosmetics shop than a franchise that lots of people frequent (He and Harris 2020).

In order to prevent the spread of new COVID 19 outbreaks and to stop droplet infections, masks have been mandatory from November 13, 2020. The increased usage of masks has led to skin concerns that have raised awareness of cosmetic health issues (Kwon et al. 2021; Sahu and Sahu 2021). It was determined that prolonged mask use creates an environment within the mask with high temperatures and humidity, which causes a relative rise in sebum, harmful chemicals, and keratin development. This may result in problems since the growth of germs like bacteria may cause problems (Lee et al. 2020). The mask touches the skin more frequently the more often you put it on and take it off. The contact of the mask and its components irritates the skin, but this irritation might lead to contact dermatitis and acne (Bhattarai et al. 2021). Due to the increased sensitivity of their skin and frequency of problems brought on by long-term masks, home consumers have developed a greater interest in natural cosmetics (Jin et al. 2021). Additionally, there was a rise in the percentage of hand creams and cleaning cosmetics. Face-to-face interactions are limited, and online shopping has replaced physical shopping for cosmetics (Xiao and Lu 2021). Beauty influencers' impact grew quickly as a result of domestic consumers' great interest in aesthetics and their propensity to trust more personal information (Foss et al. 2021).

It was found that due to the fear of becoming sick from COVID 19, people avoided going to the store and practiced self-care at home. As a result, the use of environmentally sustainable cosmetics was acknowledged as crucial for self-management (Kim & Chung, 2021). As the pandemic spreads and social risk increases, it is necessary to introduce more people to eco-friendly cosmetics via blogs, social networking sites, and online reviews (Kang & Lee, 2021). The demand for eco-friendly cosmetics is rising, and it is necessary to upgrade the green cosmetics room both inside and externally (Choi et al., 2021). To revitalize the sales of green cosmetics, it is important to systematize specialized management programs and marketing that is geared toward the demand of consumers by generation, taking into account consumer purchasing motivations and current trends for buying green cosmetics even in the COVID 19 era (Lee & Yoo, 2021).

According to Kim and Kim (2021), the COVID 19 pandemic has caused limitations in activity, a decrease in face-to-face interaction, and an increase in non-face-to-face interaction. However, the cosmetics industry has made efforts to use Fourth Industrial Revolution-inspired technology to turn immobility into an opportunity. Domestic cosmetic products are becoming a prominent topic on the international market through the use of IT and social networking tools. The makeup industry that emphasizes natural beauty is growing more active, and alternative makeup that prioritizes healthy beauty and sustainability is increasing in popularity. As a result, the cosmetic industry is rising as a high value-added sector with the potential to serve as a new engine for growth. With the integration of digitization and e-commerce, it is expected that the global cosmetics market continues to grow (Kim & Kim, 2021).

1.3. Problem statement

In the post COVID 19 world, “the unparalleled growth of cosmetic brands can be seen with respect to consumer buying behavior (Chen et al., 2022). Companies who mark their products with environmentally friendly green products to boost competitiveness with other manufacturers of similar items following the outbreak are a good example of how awareness of the need to protect the environment is continuing to rise. The epidemic has expedited the transition to more conscious people and sparked behavioral changes that are most likely to have long-lasting consequences. (Chen et al., 2022). The COVID 19 pandemic has forever changed the consumers (Chen et al., 2022). The repeated purchase behavior of consumer towards green brands have been a noble phenomenon to protect the COVID 19 environment and to save human health. As COVID 19 continues to spread across the world, the overall world order has been disturbed including how consumer behaves towards brands and why “green” matters after pandemic outbreak (Kaur 2020). A latest study reported that the COVID 19 pandemic could shift consumer behavior in a more sustainable and healthier direction (Kitz et al 2021). Hence, building positive perceptions of consumers using green brand elements after COVID 19 outbreak stimulates potential opportunities (Kitz et al 2021).

COVID 19 has aroused a feeling of depression and uncertainty among Malaysian consumer which has resulted into panic, fear and changed consumer behavior (Kaur 2020). Fear has grown ingrained and burdensome because of the uncertainties surrounding the ongoing COVID 19 pandemic. Fears of COVID 19 is seen as a factor that influences consumers' loyalty and their

choice of green products. (Addo et al., 2020) found that customers' preference for purchasing personal protection items is influenced by their fear of the COVID 19 pandemic. (Sun et al., 2021) found that customers' consumption of green products is influenced by their fear of the COVID 19 pandemic. (Jian et al., 2020) looked into the connection between green consumer behaviour and fear and uncertainty around the COVID 19 outbreak in China. Due to the COVID 19 outbreak worry and health concerns, consumer sentiments towards buying green or environmentally friendly products have increased. (Kumar et al., 2021).

The COVID 19 outbreak has caused a significant change in consumer behavior towards green cosmetics in Malaysia. With the mandatory usage of masks, there has been an increase in skin concerns, leading to a rise in awareness of cosmetic health issues (Aljefri, 2021). Prolonged mask use has created an environment with high temperatures and humidity, causing skin problems and increasing sensitivity (Hussain et al., 2021). This situation has led to a greater interest in natural cosmetics among home consumers (Saha et al., 2021). Moreover, face-to-face interactions have been limited, and online shopping has replaced physical shopping for cosmetics (Hussain et al., 2021). As a result, beauty influencers' impact has grown quickly, and customer demand for eco-friendly cosmetics has risen due to changing consumption trends (Mubarak et al., 2021). Therefore, it is necessary to upgrade the green cosmetics room both inside and externally as customer demand for eco-friendly cosmetics rises (Saha et al., 2021). The impact of green brand elements on consumer loyalty for green cosmetics needs to be studied to understand the impact of these elements on the consumer's decision-making process. This study benefits green cosmetics companies by providing insights into how to retain customers and create a loyal customer base. Additionally, it contributes to the field of marketing by providing insights into the impact of green brand elements on consumer behavior.

The COVID 19 pandemic had radically altered many aspects of life (He and Harris 2020). Consumer loyalty towards brands have become a major area of attention to numerous stakeholders throughout the pandemic (He and Harris 2020). Brands have the option to 'make' or 'break' (Kumar et al., 2021). Brand loyalty has become important because when the consumers are loyal and brand have a good reputation, consumer continues its consumption which makes it sustain in the market. The brands are however, suffering because of the changing perceptions of consumers after the pandemic (Kumar et al., 2021). A little is known about the brand elements that can predict the

consumer loyalty of green cosmetic brands in Malaysia after COVID 19 outbreak (He and Harris 2020). Moreover, the current branding strategies are not enough to enhance the value of green cosmetic products. Hence, a paradigm shift from the conventional approach of brands to predict consumer behavior towards green cosmetics is needed so that the risks associated with COVID 19 outbreak in Malaysia is minimized (Quoquab and Mohammad 2020).

Consumer loyalty to green products is impacted by the widespread anxiety over the COVID 19 epidemic. Following the COVID 19 pandemic, integrating the "green" concept into the production process has been a top priority for all concerned parties, including the cosmetics products. Due to its close ties to environmental ethics and its efforts to reduce negative effects on the environment globally, particularly in light of the COVID 19 pandemic crisis, green brands' behavior has been inspiring consumers. However, there is a disconnect between green consumers' perceptions and their behavior following the COVID 19 outbreak. Consumers' increased environmental awareness has prompted manufacturers to reconsider and restructure their brand components while taking environmental concerns into account when making production decisions. Due to the fact that demand for environmentally friendly products is steadily rising on the worldwide industry and spreading rapidly in rich countries, green purchasing practices have also become increasingly popular in developing nations like Malaysia. There are indications that the cosmetics business may once more prove to be reasonably resilient, despite the fact that the COVID 19 outbreak has had a far bigger economic impact on retailers and brands than any recession. Retailers and companies are coming up with tactics to win over customers. Therefore, it is essential to comprehend how consumers behave in the post-pandemic era to buy green products and stick with a certain green cosmetic brand (Chen et al., 2022).

After COVID 19 outbreak, "green dimensions of consumer decision making have become evident and increasingly important so are needed to be explored (He and Harris, 2020). The cosmetics market in Malaysia are developing quickly but in response to the COVID 19 pandemic in Malaysia, there is still not much published data that examines the impact of changing consumer behavior towards green cosmetic brands (Yau et al. 2020). Also, there is not enough research on how consumer perceptions are changed and how the loyalty of consumer is affected by the green brand elements after the outbreak of COVID 19 (Karpen and Conduit, 2020). Therefore, there is a growing need to understand this shift of consumer from the conventional purchase behavior to

green purchase behavior (He and Harris 2020). As COVID 19 continues to spread across the world, the marketers are trying to find innovative ways to adjust with this pro-environmental behavior which consumers are adopting (Kaur 2020).

Green brand loyalty has been inspiring consumers due to its strong relationships with environmental ethics and also to mitigate the negative impacts on global eco system, particularly after the outbreak of COVID 19 pandemic crisis; however, after this outbreak, there is a gap between understanding the relationship of the green brand elements with consumer loyalty. Consumer awareness of environmental issues has also prompted brands to reconsider and alter their products or services in light of COVID 19-related environmental issues especially for green cosmetics products. The businesses are working hard to maintain their viability in the competitive global open economy. The widespread concern of a COVID 19 pandemic has an impact on consumer views of green products and brand loyalty. No doubt, COVID 19 pandemic and its related environmental and health concerns have raised consumer's approach to buy green or environmentally friendly items (Kumar et al., 2021).

The usage of green products is increasing all over the world to combat COVID 19 (Kaur 2020). The market for green products is expanding worldwide in a variety of industries however, there is little research about consumer behavior regarding green cosmetics after the era of COVID 19 outbreak. Consumer's perceptions are highly affected by the brand itself and they perceive "green" as a "deciding factor" whether to stay loyal with a brand and vice versa. This study highlights the green elements of a "brand" so that people change their "perception" and keep their "loyalty" with the brand after the outbreak of pandemic. This study aims to reconcile the ambiguity in literature and provide updated branding insights by analyzing the impact of green brand elements on Malaysian consumer perception and loyalty after COVID 19 outbreak for green cosmetics products. This is an essential and important concern because all the businesses are currently competing fiercely. It is far too difficult for them to maintain a competitive advantage.

After the outbreak of COVID 19, there's been a quick shift in consumer demand and preference for green brands, putting a huge amount of pressure on cosmetics companies to continue afloat globally. COVID 19 has a negative impact on human life due to fear of pandemics over the world. As a result, understanding the consumer's concept of loyalty when purchasing green products is critical to understand their behavioral purpose. This research study aims is to develop deeper

understanding of about the importance of green brand elements that shape the consumer behavior and affect their notion of loyalty after COVID 19 outbreak. Furthermore, the consumer perception of green cosmetic brands is also studied in order to gain more insight on how brand elements are important to consumers and how this is used as an advantage in branding. It have been benefit retailers, wholesalers, manufacturers, policymakers, marketing and brand managers, marketing scholars and any other stakeholders of cosmetic industry to better understand their consumers and develop distinguished brand elements after COVID 19 outbreak.

1.4. Research gap

1.4.1. Theoretical gaps

According to the literature, green cosmetics is an emerging trend in the beauty industry (Lin et al. 2018). With respect to the cosmetics industry, “green” or “sustainable” cosmetics are defined as cosmetic products using natural ingredients produced from renewable raw materials. But the field of green cosmetics still needs more clarification. It has been found that consumer lifestyle and preferences affects their behavior towards the environment and how responsibly they are consuming a product (Adinyra and Gligui 2011). However, recent researchers did not specifically analyze a certain type of products and does not extensively review the literature on green product purchase behavior after COVID 19 outbreak; such as green brand elements hence, there is a need to fill this gap (Zhang and Dong 2020). Moreover, the term “green”, and other related concepts are being used interchangeably, although they are not necessarily identical. Because of the ambiguous nature of the green brand concept, what constitute a green brand, to the consumer, is unidentified. Further to this, there is a divergence of viewpoints of different academicians, marketers and consumers on what constitutes a “green brand” and there is also an ambiguity about the brand elements and their effect on consumer perceptions (Bhardwaj et al. 2020). Even though, current literature attempts to emphasize the importance of green brands, there is a growing need to provide updated insights about the brand elements and their impact on consumer loyalty after COVID 19 to understand the possible changes in brand elements and consumer loyalty towards green cosmetics in post-pandemic era. (Knowles et al. 2020). Although a few studies have addressed the consumer behavioral concerns with respect to brand elements after the outbreak of COVID 19, a few of them have precisely explored these trends with reference to green brand

elements and mediating role of consumer perceptions and cosmetics industry in Malaysia (Knowles et al. 2020).

1.4.2. Managerial gaps

Consumers are willing to pay a greater price for green cosmetics due to their increased awareness of environmental preservation and health (Kim & Seock, 2009). Despite the fact that there still is an inclination for green cosmetics, information regarding products and brands is inaccurately communicated (Lin et al., 2018). Companies are trying to use Integrated Marketing Communication Channels to close the gap. (Lin et al., 2018). Consumers prefer cosmetics made with natural ingredients and are willing to spend a greater price for these cosmetics product (Amberg & Fogarassy, 2019). Study conducted to check the buying preferences of youngsters in Malaysia indicated that the consumers are inclined towards buying green cosmetic products (Boon, Fern, and Chee 2020). However, the level of this consumer inclination known as consumer perceptions after the outbreak of COVID 19 is still unknown. For many businesses looking to create ecological opportunities, environmental concern has become pervasive (Chen and Chang 2012). This new viewpoint has enhanced consumers' desires and needs to buy products that are compatible with their awareness and way of thinking. (Curvelo, de Morais Watanabe, and Alfinito 2019). As a result, in recent decades, the movement towards green marketing has grown (Omar, Hashim, and Zain 2020). Examining the mediating function for consumer perceptions from the perspective of green marketing, however, has shown little about the connection among green brand elements with consumer loyalty (Jaini et al. 2019). As a result, a more thorough investigation is needed to conduct an empirical study on green consumer behavior following the COVID 19 epidemic. It is sensed that COVID 19 has aroused a need of adopting green brands (He and Harris 2020). Therefore, this study significantly closes these research gaps and helps in understanding the Malaysian consumer buying behavior during pandemic crisis. It aims to investigate the impact of green brand elements on consumer loyalty while buying cosmetics products during the dynamic times of COVID – 19.

1.5. Research questions

1. What impact do green brand elements (i.e., green brand knowledge, green brand trust, and green brand loyalty) have on Malaysian consumers' perceptions after COVID 19 outbreak?

2. What impact do consumers' perceptions have on their loyalty after COVID 19 outbreak?
3. Do consumer perceptions mediate the relationship between green brand elements and consumer loyalty after COVID 19 outbreak?

1.6. Research objectives

1. What impact do green brand elements (i.e., green brand knowledge, green brand trust, and green brand loyalty) have on Malaysian consumers' perceptions after COVID 19 outbreak?
2. What impact do Malaysian consumers' perceptions have on their loyalty after COVID 19 outbreak?
3. Do Malaysian consumer perceptions mediate the relationship between green brand elements and consumer loyalty after COVID 19 outbreak?

1.7. Significance of the study

This study's significance goes beyond academia and has implications for consumer behavior in the cosmetics industry as well as the theory and the practice in the fields of green branding and green marketing. The practical as well as theoretical significance of the current work is described in this section:

1.7.1. Theoretical significance

There are numerous ways in which this research is significant academically. The main objective of this research is to advance theoretical knowledge of the connections among green brand elements, consumer perceptions, as well as consumer loyalty in a setting of the Malaysian cosmetics market. This research intends to improve the current theoretical framework by examining the effects of Green Brand Knowledge (GBK), Green Brand Trust (GBT), and Green Brand Attachment (GBA) on consumer loyalty by the mediating influence of consumer perceptions of green brands. By examining these particular links in the distinctive setting of the Malaysian cosmetics market, this research, unlike earlier studies, significantly closes a critical gap. This study also aims to deepen our understanding of the variables influencing consumer behavior through investigating the complex relationships between green brand elements and consumer loyalty. The corpus of knowledge relating to green branding, customer loyalty, and perceptions of

products that are environmentally friendly can be enhanced by incorporating the theoretical insights gained from this research into already-existing models and frameworks.

This study has equally significant practical implications. Especially in the wake of international events like the COVID-19 pandemic, the cosmetics industry, a significant contributor to Malaysia's economy, faces developing sustainability challenges. This study offers practical advice on boosting brand components to increase consumer loyalty for both domestic and foreign producers of eco-friendly cosmetics.

This study provides marketers with a better knowledge of consumer tastes and decision-making processes by shining light into the perceptions, attitudes, and actions of Malaysian consumers regarding green branding. Such information is crucial for developing efficient marketing strategies that meet consumer demand as consumers place a growing emphasis on environmental concerns.

Furthermore, by helping them better understand consumer behaviors, preferences, and concerns regarding environmentally friendly items, governmental organizations and policymakers will benefit from the study's findings. These insights aid informing policy choices that support sustainable behaviors and economic progress at a time of increased environmental awareness.

This study provides a solid foundation for subsequent research by providing a thorough approach that addresses the complex interactions between green brand components and customer loyalty. This foundation can be built upon by academics and researchers to investigate similar topics, furthering the study of sustainable consumer behavior and green branding. For policymakers and regulators working in the cosmetics business, this report is extremely relevant. The conclusions drawn from this study offer light on the consumer's opinions and preferences for green cosmetics in a time of rising environmental consciousness and growing demand for sustainable products. Policy makers or regulators can create and enforce environmentally responsible legislation by using knowledge of the aspects that affect consumer loyalty using green brand elements, as well as ensuring that products meet the demands of consumers for sustainability. The results of this

study enable decision-makers to encourage the growth of a more environmentally conscious cosmetics business, boosting consumer satisfaction and efforts to safeguard the environment.

1.8. Scope of the study

The scope of this study is to investigate the impact of green brand elements on consumer loyalty for green cosmetics after the COVID-19 outbreak in Malaysia. This study focuses on examining the green brand elements that influence consumer loyalty. It also examines how these elements affect the consumer's decision-making process and their perception of green cosmetics. The study is conducted through a survey of Malaysian consumers who have purchased and used green cosmetics after the COVID-19 outbreak. The results of this study is useful for green cosmetics companies in Malaysia to develop effective marketing strategies that can attract and retain customers. Additionally, this study contributes to the literature on green marketing and consumer behavior in the post-COVID-19 era. The findings of the study encompass an insight for retailers, wholesalers, manufacturers' green cosmetic industry of Malaysia, policymakers, whole cosmetic industry, and other stakeholders to use the brand elements according to the consumer perceptions.

Definition of key terms

Based on the previous literature,

Brand Elements: Brand elements, sometimes called brand identities, are those trademark able aspects of a brand that serve to **recognize, differentiate, choose, depend on and connect** with a particular brand over others (Keller, 2003)

Green Brand Knowledge: Green brand knowledge is defined as the buyer's ability to **recall and recognize** a brand based on its attributes of environmental friendliness (Poursoltan, Seyed-Hosseini, and Jabbarzadeh 2021). Previous studies defined green brand knowledge as "a green brand node, which is present in the memory of consumer and is linked to the environmental concerns and environmental commitments (Pan, Sheng, and Xie 2012).

Green Brand Trust: Researchers defined green brand trust as a willingness to **depend** upon a brand on the expectation due to its benevolence, credibility or performance towards environment (Joo, Tjhie, and Jaikishin 2020).

Green Brand Attachment: Brand attachment can be defined as a strength of bond between the brand and the consumer (Park et al. 2010). Recently, researchers defined green brand attachment as the degree of perceptive *connection* due to the long term relationship between the consumer and the brand” (Chen et al. 2017).

Based on the above definitions, this study collectively refers Green Brand Knowledge (GBK), Green Brand Trust (GBT) and Green Brand Attachment (GBA) as Green Brand Elements for this study.

Consumer Perceptions: Consumer perception is defined as “the level of acceptance of a brand which affects the willingness to pay preferences of a consumer” (Stampa, Schipmann-Schwarze, and Hamm 2020).

Consumer Loyalty: Previous researchers defined consumer loyalty as a “*positive behavior*” of the consumer towards the company which led to repeat purchase conduct and which is developed to create long term mutually beneficial interaction by the business with its consumers (Pan, Sheng, and Xie 2012).

Green Consumer: The green consumer is defined as the consumer who is likely to be engaged with green products and brands and is highly inclined towards purchases them” (Amberg and Fogarassy 2019). Previous research concluded that the demographic profiling of green consumer is young, mid to high income, educated, urban women (Narula and Desore 2016).

Cosmetics: According to the Pharmaceutical Affairs Act, the product that is applied on to the face or skin to enhance the features of face and the overall appearance of the user is called a cosmetic product (Group 2011).

Green Cosmetics: In modern marketing, the word “green” has become synonymous with “organic” or “healthy” (Quoquab and Mohammad 2020). “Green cosmetics” are the eco-friendly cosmetic products which have environmentally friendly formulations, production practices or packaging methods (Quoquab and Mohammad 2020).

1.10. Novelty of the study

The novelty of this research study lies in its focus on the impact of green brand elements on consumer loyalty in the context of the COVID-19 outbreak in Malaysia. Specifically, the study

aims to investigate the effect of various green brand elements on consumer loyalty towards green cosmetics after the COVID-19 pandemic. By examining the relationship between green brand elements and consumer loyalty in the aftermath of the pandemic, this study offers insights into how consumers perceive and value green cosmetics in a post-COVID-19 world. This information can be valuable for cosmetics companies in Malaysia and beyond, as they navigate the new normal and adapt their marketing strategies to meet changing consumer preferences and behaviors. Overall, the study contributes to the literature on green marketing and consumer behavior by shedding light on the role of green brand elements in shaping consumer loyalty in the context of a global crisis. The study highlights the dynamicity of offering green brand knowledge, developing green brand trust, and building strong green brand attachment which ultimately leads to desired consumer loyalty after the ongoing pandemic outbreak. This research includes meaningful insights to the marketing and brand managers of cosmetics industry to better understand their consumers and develop distinguished brand elements according to the consumer preferences after COVID 19 outbreak particularly in Malaysia.

1.11: Organization of thesis

This thesis is divided into several clearly defined sections and chapters, each of which serves a particular function during the investigation. Setting the tone for the research project are the Abstract and Keywords sections, which are followed by the Acknowledgements. An detailed review of the research setting is given in Chapter 1, the Introduction, which begins with a basic introduction and study background. The reader is given an overview of the study's importance, the research questions, the aims, and the size of the study. It also describes the uniqueness of the study and points out any gaps in the literature. The theoretical framework is explored in depth in Chapter 2, the Literature Review, which also examines the notions of green branding, consumer behavior, particularly the cosmetics sector. It lays the groundwork for the investigation. The study paradigms, design, strategy, and data collection techniques are described in Chapter 3's section on methodology. There is also discussion of ethical issues. Results and analysis are presented in Chapter 4 along with initial findings and a thorough study of measurement models or structural models. In Chapter 5, "Discussion of Findings," the findings are interpreted, their implications and limits are covered, and suggestions for further study are made. The research instrument, recruitment materials, and reference are included as appendices at the conclusion. This organized

format guarantees that the study's findings is presented methodically, effectively directing the reader throughout the entire thesis.

Chapter 2 – Literature Review

2.0. Overview of the Chapter

This chapter is divided into three sections. Section 2.1 comprises of developing the general understanding of green branding and how it is linked with green marketing. It highlights the work previously done by the researchers on ‘green’. Further to this, green brand knowledge, green brand trust and green brand attachment are defined as green brand elements to develop a conceptual understanding of the reader. Section 2.2 defines how the green brand elements are linked with perceptions of the consumers and ultimately to the consumer loyalty. Also, brand elements with regards to the cosmetics industry are discussed and how, the notion of ‘green’ has been catered by researchers previously. It highlights the key brand elements and their impact on consumer loyalty. Section 2.3 introduces VBN model, which is utilized to develop the theoretical framework for the study. It also illuminates how the field of green marketing can benefit from the comprehensive and holistic framework developed by the researcher for this study.

2.1: The conception of Green Branding

The concept of green branding is defined as the entirety of all the processes which are involved in the creation of products and services which are associated with the conservation of environment by the consumers (Danciu 2015). Previously, researchers argued that the sociological factors like increasing the consciousness towards the environment, the increased use of social media, increased used of internet, any new forms of education and parenting are the factors for inclination of consumers towards green brands (Ali et al. 2020). Moreover, the researcher’s argued that these factors are the cause of sense of empowerment and ability to make the informed decisions of consumers and are thus leading to the change in their buying habits and purchase decisions in accordance to the notion of their support to their green value set (Ali et al. 2020). Researchers argued that as stated by American Marketing Association, the green branding is a topic under the broader argument of green marketing which is the marketing of services and products which are presumed to be environmentally safe (Danciu 2015). Researchers corroborates further to this claim by defending the green marketing as the effort of a company to produce, promote and recycle its products and services with respect to the environmental concerns and responses it has towards the

environment (Yildirim 2014). The opponents of this view regarding green branding defined it as the umbrella which is broader with green marketing under it thus it creates a strategically defined explicit green brand identity which is the set of specific green brand attributes aimed to lower the environmental impact as is considered as a key to provide values to the consumers (Yildirim 2014). It has also been argued that green brands are likely to fail if the environmental safety and the notion of green is not clearly and effectively communicated to the consumers in order to spark are positive consumer purchase and decision making behavior and ultimately their loyalty (Hartmann, Ibáñez, and Sainz 2005). For this purpose, this study has defined GBK, GBT and GBA as the three green brand elements of the study to examine their impact on consumer perceptions and consumer loyalty.

2.1.1: Why do businesses opt for green branding?

Green cosmetics brand owners get involved in retail and manufacturing management (Hartmann, Ibáñez, and Sainz 2005). One constant was their own lifestyle choices; they all claimed to be health-conscious and wary of things containing synthetic components, necessitating the need to build a brand that they, and others like them, can trust to care for their bodies (Boon, Fern, and Chee 2020). These lifestyles are sometimes the result of personal investigation into the possible negative effects of commonly used chemicals and components in cosmetics (Boon, Fern, and Chee 2020). Consumers may readily access and act on a wealth of information about how to source responsibly, protect the environment, treat people properly, and so on (Danciu 2015). The availability and authenticity of ingredients, market research, and manufacturing costs were also highlighted as factors that influence the pricing of each product for both themselves and their store, if applicable (Butt et al. 2017). Most brand owners did not use the phrase "green" when describe their businesses until they were pressured (Butt et al. 2017). The most prevalent adjectives were natural, all-natural, and natural-based (Butt et al. 2017). These are the terms that are frequently used in brand marketing and advertising (Joo, Tjhie, and Jaikishin 2020).

They did, however, confirm that they are employing green branding in compliance with the report's standards (Abdullah, Meera, and Abubakkar Siddique 2016). There was also agreement that the market for green cosmetic brands is growing and that local consumers are becoming more receptive, with some brand owners citing the fact that they receive consumer inquiries from across the country and even abroad despite limited and/or non-existent brand communication campaigns as proof of how easy it is to get consumers to buy into the market (Abdullah, Meera, and

Abubakkar Siddique 2016). Aside from extensive use of social media platforms like Facebook and Instagram, as well as participation in popup markets and activations, consumers report discovering our brand either through word of mouth or by personally searching for the products brands offer both locally and internationally (Bempong 2017).

In recent years, a commitment to a safe, sustainable economy and the environment has taken hold all over the globe. Several academics, economists, and professionals have been compelled by the accelerating pace of the industrial revolution to examine industrial production techniques, rules, and regulations in order to adhere to environmentally friendly practises. Due of the continued concern and uncertainty surrounding the COVID 19 pandemic, the incorporation of green brand consumption behavior purpose has created a new atmosphere of health consciousness. The green idea has assumed a prominent position in every aspect of the production and end-user consumption of products and brands (Mishal et al., 2017; Ferraz et al., 2021). Industries are working very hard to survive in the open, globally competitive economy. Many businesses misuse natural resources inefficiently to manufacture goods and services for consumers that negatively impact the environment by producing pollution in many forms. (Shen et al., 2021).

For all companies participating in production process, such as the consumers of the consumer goods, incorporating green concepts has become a major concern (Chen et al., 2022). Consumers have been motivated by the perceived usefulness of green products because of their close ties to environmental protection and their desire to reduce the environmental harm that they cause, especially in light of the COVID 19 pandemic crisis (Chen et al., 2022). Consumers' views towards buying green products and their behaviour in terms of green product consumption are impacted by the widespread concern over the COVID 19 pandemic (Chen et al., 2022). However, there is a huge gap between the impact of green brand elements and their impact on consumer loyalty after the outbreak of the COVID 19 pandemic (Chen et al., 2022). Because more people are becoming environmentally aware, companies are rethinking and redesigning branding strategies with environmental concerns in mind (Chen et al., 2022).

2.1.2: Consumer demographics & psychographics and their behavior towards brands

Consumers of green cosmetic companies in Malaysia might be classified by gender, age, country, or lifestyle, according to the report (Ayob et al. 2016). Women make up the majority of the clientele, with a few elderly guys in their forties and fifties (Bempong 2017). Young women in their twenties and thirties who are social media savvy and search for these things on platforms like

Instagram and Facebook (Boon, Fern, and Chee 2020). Men and women make up an even split of buyers, and many individuals buy for their children and babies, who have exceptionally sensitive skin (Boon, Fern, and Chee 2020).

When it comes to lifestyle choices, green cosmetics businesses have discovered that there are three categories of consumers (Boon, Fern, and Chee 2020). Those who truly care about environmental issues and, as a result, choose to use green cosmetics. Second, some consumers use cosmetics to solve a particular problem. Finally, some people buy just because local body treatments have been made to look like "foreign" products (Boon, Fern, and Chee 2020).

2.2: The Cosmetic Industry

2.2.1: What are cosmetics?

Cosmetics have been defined as "any substance or combination of natural and/or artificial chemicals intended to be applied at various sites on the human body or dentition for the reason of cleanup, disinfecting, enhancing, or changing consumers' looks to keep them in good condition," according to Health Science Authority (Jaini et al. 2020). There are many different categories to choose from, including those for manicuring and pedicuring, skin care, hair care, bath goods, fragrance products, makeup, personal hygiene, and oral hygiene products (Food 2011). Cosmetics product sales climbed lately due to consistent consumer demand, reaching US\$532 billion, according to sources (Bempong 2017). Cosmetics from both global and local businesses are in high demand in Malaysia. Sales of cosmetics products in other countries increased by 25% in 2015, while domestic sales reached RM1.124 billion (Cheong et al. 2018). Every cosmetic product in Malaysia is regulated (Hassali et al. 2015). Any prohibited item on the negative list, as well as any substance that exceeds the acceptable conditions and limitations under the Drug Control and Cosmetics Regulations 1984 and the Drug Sale Act 1952, should be avoided by the consumer (Astuti and Abdullah 2018). Cosmetics are often considered low-risk commodities in Southeast Asian countries, as well as other ones, such as the EU (Astuti and Abdullah 2018). Chemical substances, such as synthetic chemicals, are commonly found in cosmetics (Ahmad et al. 2021). Synthetic drugs are used to boost the body's instant results (Astuti and Abdullah 2018). The majority of chemical substances used in cosmetics, on the other hand, are dangerous and have been connected to health problems such as headaches, acne, hair problems, cancer, skin allergies, and other significant disorders in the long run (Ahmad et al. 2021). Green cosmetics with no side

effects have been produced in recent years by cosmetics manufacturers. In the cosmetics industry, green cosmetics (also known as sustainable cosmetics) are cosmetics made from natural ingredients generated from renewable raw materials (Ahmad et al. 2021).

2.2.2: The trends

In general, we may state that no one in the modern world can live without cosmetics (Aydın and Ünal 2016). Cosmetics encompasses a broad definition that includes not only goods used to the face but also toiletry and personal care products (Kirssi 2017). In this section, the study's history has been discussed, including changes in cosmetic usage, the importance of the cosmetic market's growth, the rise of cosmetic industry players, and distribution channel choices. The industry which caters the producers of substances that are used to enhance the appearance of face and body without affecting the structure and function of the body is called the cosmetics industry (Setar and MacFarland 2012). These include skin care products, hair care products, fragrances, color cosmetics (also known as makeup), and fragrances (Setar and MacFarland 2012). Globally, this industry has a worldwide estimate of 18,486 notable business around the globe. L'Oréal, Unilever, and Procter & Gamble are among the top businesses of cosmetics which employ around 439,000 employees in the world (Setar and MacFarland 2012). Over the years, consumers have steadily increased the amount of their discretionary money they spend on cosmetics, with sale of skin-care products accounting for the greatest share of the market (36.1% in 2015). (Organization 2016). Even if non-Western beauty traditions are rapidly changing the industry, almost a third of a cosmetics market still resides in North America and Europe alone (Organization 2016). For instance, the predicted average annual growth rate for LAMEA (Latin America, the Middle East, and Africa) is 4.9%. (Organization 2016). Since worldwide consumers are becoming increasingly interested in incorporating culturally and ethnically diverse beauty routines into their daily lives, these new locations are anticipated to play a significant role in the market. (Organization 2016). The notion that consumers are become more cautious about hazardous and potentially harmful ingredients in cosmetics is another factor that contributes to the worldwide popularity of cosmetic procedures (Euromonitor 2014). As a result, consumers are increasingly turning to companies that sell all-natural cosmetics free of recognised toxic components including paraben, fragrance, phthalates, and aluminium salts (Avila Rodriguez, Rodriguez Barroso, and Sánchez 2018). Grand View Research estimates that the worldwide green cosmetics business earned USD 10.16 billion in 2017. (2015). Skin care items dominated future demands with in green cosmetic industry, just

like they did in the larger cosmetics sector. (Avila Rodríguez, Rodríguez Barroso, and Sánchez 2018).

The use of cosmetics dates back to the ancient Egyptians, who utilized cosmetics to denote social status (Avila Rodríguez, Rodríguez Barroso, and Sánchez 2018). However, cosmetics have become a daily ritual or a basic need for everyone, regardless of age or gender (Avila Rodríguez, Rodríguez Barroso, and Sánchez 2018). Since its inception in the early twentieth century, the cosmetic industry has grown to be a multi-billion dollar industry, and interestingly, it is one of the industries that has been less affected by economic crisis (Amberg and Fogarassy 2019).

2.2.3: The cosmetics industry of Malaysia

The cosmetics sector in Malaysia generates billions of Ringgit Malaysia in annual sales and is fast expanding at a rate of 15% per year due to high demand for high-end goods (Ahmad, Yunus, and Rose 2015). Malaysians spend an estimated \$500 million on cosmetics each year, and their expenditure on these goods has climbed by more than 40% in the previous few years due to an increase in the number of women entering the work market and increased urbanization (Ahmad, Yunus, and Rose 2015). Furthermore, increased consumer satisfaction affects product sales, resulting in an anticipated value of RM3.6 billion for Malaysia's cosmetics and toiletry industries, with a healthy projected annual growth of 13% (Ahmad, Yunus, and Rose 2015). This is an increase over previous years, indicating that Malaysian consumers are becoming more interested in purchasing beauty products (Ahmad, Yunus, and Rose 2015). Domestic and international brands are available in Malaysian cosmetics (Hassali et al. 2015). Malaysian brands can be split into several categories. Some cosmetics are made by local brands owned and manufactured by local businesses; others are made by local businesses but manufactured abroad; still others are made by foreign brands owned by international businesses but manufactured locally; and still others are made by foreign brands owned by international businesses but manufactured abroad (Hassali et al. 2015). With many brands to select from, Malaysian indigenous brands achieved a total value of US\$7 billion in 2010, with annual growth of 15 to 20% (Yau et al. 2020). Simultaneously, as these businesses look for a lucrative market, imports of cosmetic brands from other countries are increasing, and this trend is expected to continue. People are placing a greater emphasis on looks and aesthetics, resulting in a relatively high market value (Yau et al. 2020).

Women and cosmetics are tightly interwoven (Boon, Fern, and Chee 2020). Beauty product sales are clearly increasing in Malaysia, despite the fact that the majority of Malaysians are concerned about various issues pertaining to cosmetics and their impact on users (Boon, Fern, and Chee 2020). When it comes to cosmetic products, consumers, especially novice users, are wary (Chen, Shang, and Kao 2009). With many new cosmetics items on the market competing for the eyes and thoughts of consumers, people are considerably more concerned about their choices (Ahmad et al. 2021).

2.2.4: Green cosmetics

Environmentally friendly packaging with an eco-label integrated into each product design is something that proponents of the green cosmetics industry (Lin et al. 2018). Green cosmetics are becoming more popular as a result of their long-term health benefits (Lin et al. 2018). It has become a symbol of both health and environmental well-being (Narula and Desore 2016). In the cosmetics sector, there is a significant lot of accountability and in the world, going green is a must (Narula and Desore 2016). Cosmetics have evolved into a kind of self-care and environmental stewardship (Lin et al. 2018). Hundreds of thousands of businesses and individuals have been motivated by the favorable demand (Lin et al. 2018). Green cosmetics are already being produced and sold by providers (Narula and Desore 2016).

However, there are a number of obstacles that could erode consumer confidence, including a lack of strict regulation and misleading marketing information (Saleki, Quoquab, and Mohammad 2019). Furthermore, as more people become aware of green cosmetics, artificial cosmetics are being dumped on the market in Malaysia (Saleki, Quoquab, and Mohammad 2019). Consumers' lack of information about checking the quality and safety of cosmetics products before making any transactions is to blame for the rise of illicit items on social media platforms, prompting more research to better understand consumers green product behavior (Saleki, Quoquab, and Mohammad 2019). Despite the fact that there is a substantial corpus of research on consumer behavior in the pharmaceutical industry (Saleki, Quoquab, and Mohammad 2019).

Because of environmental degradation and concerns such as climate change, the concept of sustainability is becoming more prominent (Chua, Quoquab, and Mohammad 2019). Green purchasing behavior is said to be one of the important variables in environmental sustainability (Joshi and Rahman 2016). A paradigm shift in consumer purchasing preferences and behavior

toward green items is required to reduce the negative impact on the environment (Quoquab, Thurasamy, and Mohammad 2017). Understanding green purchasing behavior in terms of environmental challenges is crucial to limiting the negative effects of high chemical product use (Yadav and Pathak 2017).

There are several contrary research about consumer behavior of green cosmetic brands. Despite the fact that environmental issues are well-known throughout the world, not all consumers practice green purchasing in their daily lives (Quoquab, Mohammad, and Sukari 2019, Joshi and Rahman 2016). According to studies, having a positive attitude about purchasing green products does not automatically equate to green purchasing behavior (Jaini et al. 2020). Similarly, while the majority of consumers intend to buy green items, a small percentage do not (Caruana, Carrington, and Chatzidakis 2016, Carrington, Neville, and Whitwell 2010). Although many consumers in developing nations such as Malaysia are aware of the benefits of green products, they do not purchase them (Quoquab et al. 2018, Rahbar and Wahid 2011). This is also true in the procurement of cosmetics items, necessitating additional research to better understand consumers' green purchasing habits in the cosmetics business (Rahbar and Wahid 2011). However, there are few studies that look at consumers' green purchasing behavior from the standpoint of the cosmetics sector following the COVID 19 epidemic.

Chemical cosmetics containing toxic ingredients such as triphenyl, phosphate, petroleum, propyl paraben, phthalates, avobenzene, mercury, tretinoin, and hydroquinone, which have serious negative effects on consumers' bodies and lives, have been a serious problem in the Malaysian market, according to the Malaysian Ministry of Health (Abdulkhaleq et al. 2018). Despite a rise in environmental awareness among buyers in the global market (Kautish and Sharma 2018, Mishal et al. 2017), the issue of buying illegal cosmetics has become increasingly prominent. In 2016, the Malaysian Ministry of Health determined over 12,000 cosmetic products to be harmful, and more than 300 websites were sanctioned or terminated (Mishal et al. 2017). Because of the flexibility of social media, which has become a key medium for promoting cosmetics items without any specified limits, uncontrolled illegal cosmetics sales are becoming increasingly common. Furthermore, consumers' desperate desire to look beautiful in a short period of time drives the demand for chemical cosmetics (Hynes and Wilson 2016).

In the past, researchers looked studied the impact of consumer opinions on purchasing decisions (Hynes and Wilson 2016, Jalilvand and Samiei 2012). The rapid growth of social media has proven to have a growing impact on consumer purchase behavior (Wang and Yu 2017). It contributes greatly to electronic word-of-mouth and aids in the establishment of consumer opinions (Hynes and Wilson 2016). Consumers have just recently realized the significance of their perceptions in seeking out other people's opinions or expressing their own buying experiences (Hynes and Wilson 2016).

Cosmetics are "any substance or combination of natural and/or artificial chemicals intended to be used at numerous areas of the body or mouth for the objective of cleaning, beautifying, enhancing, or changing consumers' appearances to preserve them in good condition," according to Health Science Authority (Food 2011). Skin care, hair care, bath products, fragrances, makeup, personal hygiene, oral hygiene products, and manicuring and pedicuring items are just a few of the categories (Food 2011) Cosmetics product sales climbed in 2017, hitting US\$532 billion, according to sources, due to strong consumer demand . Furthermore, with 3 billion consumers, the Asia Pacific region has the largest market share in the worldwide cosmetics business (Hobbs and Shanoyan 2018). As a result, it is clear that the cosmetics sector is a major player in the global market (Hobbs and Shanoyan 2018).

Cosmetics made by multinational manufacturers as well as local companies are in high demand in Malaysia (Hassali et al. 2015). According to overseas cosmetics product sales climbed by 25% in 2015, while domestic sales hit RM1.124 billion (Cheong et al. 2018). In Malaysia, each cosmetic product is governed by the Drug Control and Cosmetics Regulations 1984, as well as the Drug Sale Act 1952, to avoid any forbidden substances on the negative list, as well as any substance that exceeds the permissible conditions and limitations (Abdullah, Meera, and Abubakkar Siddique 2016). Malaysia's cosmetic notification system is in line with the cosmetic regulatory harmonization system that has been adopted in all ASEAN member countries, as well as other countries such as the European Union, where cosmetics are classified as low-risk items (Ayob et al. 2016).

Cosmetics are typically composed of chemical substances such as synthetic chemicals (Oishi 2002). The usage of synthetic substances is intended to increase the body's immediate outcomes. However, the majority of chemical chemicals used in cosmetics are harmful, and have been linked

to health issues such as headaches, acne, hair difficulties, cancer, skin allergies, and other serious ailments in the long run (Oishi 2002). In recent years, cosmetics producers have developed green cosmetics that are free of adverse effects. In the cosmetics industry, "green cosmetics" (also known as "sustainable cosmetics") refers to cosmetics products developed from natural ingredients derived from renewable raw materials (Jaini et al. 2019). Green cosmetics marketers think about sustainable packaging that includes an eco-label in each product design. (Lin et al. 2018). Green cosmetics have become a symbol of health and environmental responsibility in the cosmetics business as a result of its long-term advantages on health and environmental wellness (Lin et al. 2018). Green cosmetics have evolved into a way of life that emphasizes self-care and respect for the environment (Lin et al. 2018). Hundreds of thousands of enterprises and suppliers are making and selling green cosmetics as a result of increased demand (Lin et al. 2018).

However, there are a number of obstacles that could erode consumer confidence, including a lack of strict regulation and misleading marketing information (Saleki, Quoquab, and Mohammad 2019). Furthermore, as more people become aware of green cosmetics, artificial cosmetics are being dumped on the market in Malaysia (Saleki, Quoquab, and Mohammad 2019). Consumers' lack of awareness about the quality and safety of cosmetics products before purchasing them is to blame for the rise of illegal items on social media platforms, demanding greater research to better understand consumers' green purchasing behavior (Saleki, Quoquab, and Mohammad 2019). As a result, the current study aims to look at the behavior towards the purchase of green products among Malaysian consumers in terms of cosmetics purchases after COVID 19 outbreak, as well as the mediating influence of consumer perceptions on the consumer loyalty and behavior towards the purchase of green products.

2.2.5: Green Consumerism: A Vital Link to Eco-market

A green consumer is a person who cares deeply about the planet and only buys products and services that are ecologically responsible or eco-friendly with minimal or no packaging, goods created from natural ingredients, and goods that are manufactured without generating pollution or harming the environment's health (like emission hazards). A green consumer is one who purchases goods created from recyclable or waste materials, drives a hybrid car, and purchases hemp-based goods. The main goal of the green consumerism movement is to persuade consumers to purchase

foods and other items that are thought to be more environmentally friendly, such as lead-free gasoline or organic vegetables.

The green industry is driven by environmentally conscious consumers. Consumer beliefs, lifestyles, and the purchase of eco-friendly goods are all influenced by environmental awareness. Individuals who participate in environmental activities are more likely to buy green products, claim (Schuhwerk and Lefkoff-Hagius 1995). It can be difficult for businesses to market to environmentally conscious consumers as green consumers want companies to use environmentally friendly practices like recycling and energy efficiency in addition to purchasing green products from them (Montague and Mukherjee, 2010).

The green market is segmented according to the consumer's level of dedication towards environmental problems, attitude, and behavior (Schuhwerk and Lefkoff-Hagius, 1995). In the USA, The Roper Organization divides the green consumer market into five categories (Suplico, 2009). The first is "true-blue green." The environment is something that consumers increasingly feel is affected by their behavior. Consumers are willing to spend extra money on eco-friendly products and take an active role in green initiatives like composting and recycling. Since they are some of the most ecologically conscientious consumers, they make sure to only buy green products from reliable brands that adhere to their beliefs and values (Suplico, 2009).

The second issue is that "greenback green" consumers purchase more expensive environmentally friendly brands but are unwilling to take part in environmental actions. These consumers only make financial investments in environmental activities in order to safeguard their way of life. Third, "sprouts" are environmentally conscious consumers who support environmental laws. However, they are less inclined to invest more money on eco-friendly goods. Fourth, "grouzers" think that "going green" is not their responsibility to address environmental problems. To avoid additional expenses, this consumer segment favors conventional products over green alternatives. Last but not least, the "basic brown" group thinks that no amount of individual, corporate, or political effort can resolve ecological issues (Suplico, 2009).

Green products may have as one of their objectives to persuade consumers to alter their behavior. For instance, some studies suggest that consumers are willing to pay more for some green products at premium prices (Ottman, 1992, 1993), despite the fact that later studies' findings in the Morgan

Polls (Ha, 2008; Mobium, 2007) suggest that most consumers believe that green products are overpriced globally (Australia, 65 per cent; New Zealand, 66 per cent; the United Kingdom [UK], 74 per cent; and the US, 72 per cent). After that, a sizable portion of American consumers' purchasing habits have changed in response to increased public knowledge of environmental issues. According to the Compendium of the Environment, "many consumers, and not only the most environmentally responsible ones," are looking for ways to reduce the negative effects of their individual purchasing decisions on the environment through the use of goods and services that are perceived as being environmentally friendly (Stoeckle et al., 1994).

Consumers have been categorized in the field of green marketing according to various demographic, psychographic, cultural, and personality factors. Three criteria were determined to be the most effective categorization in the Indian context: concern for the ecosystem, awareness of environmental issues, and environmentally friendly behavior (Davis, 1993; Jain & Kaur, 2004). The main conclusions of these studies demonstrate that although Indians are not sufficiently knowledgeable about environmental concerns, there is a general high concern for the environment. Most amazingly, Indian consumers score extremely well in terms of environmentally friendly behavior, particularly with respect to resource conservation and spending habits, especially for purchasing greener products. The desire to behave in an environmentally friendly manner is the main advantage that people look for in such behavior.

Many businesses are vying for consumers by promoting their sustainable and environment brands, and each of them has a different green branding strategy. For instance, The Body Shop, which has over 700 shops globally and sells its non-animal tested, primarily natural product range with recycling/refilling policies, is an example of a company that practices green marketing. In a survey of 500 of the largest companies in Canada, marketing professionals discovered that 47% had already changed their packing to make their offerings more environmentally friendly. The Biodynamic Agricultural Society of Australia and New Zealand places a strong emphasis on "organic farming" that is export oriented as a green marketing tactic. Companies employ green products not only to boost consumer satisfaction but also to reduce expenses for consumers may afford the items. McDonald's, for instance, employed recyclable materials for its wrappers and cut environmental waste by 60%; its "give a tree away" day served as an example for other fast-food businesses to follow.

2.2.6. Green brands and COVID 19

The behavioral decision to buy products that are environmentally friendly has gained popularity, and academic researchers and industry professionals are also interested in green marketing. According to the research, consumers' intent to purchase green products are reflected in their fear of the COVID 19 pandemic. This discovery is connected to Sun et al (2021)'s discussion of the COVID 19 pandemic's positive and negative effects on consumers' green consumption behaviors and the backdrop of China. The businesses are working very hard to survive in the open, globally competitive economy. Many businesses overuse natural resources inefficiently to produce products and services for consumers that harm the environment by producing pollution in many ways (Shen et al., 2021). Fear of COVID 19 might be a key influencing factor that reflects customers' purchasing behavior of green products. According to Addo et al. (2020), consumers who are fearful about the COVID 19 pandemic are more likely to buy protective equipment for themselves. According to Sun et al. (2021), consumers' inclinations to purchase green products are influenced by their fear over the COVID 19 pandemic. Jian et al. (2020) looked into the connection between green consumer behavior and fear and uncertainty around the COVID 19 epidemic in China.

Pre COVID 19 VS Post COVID 19 consumer perception/behavior:

Recent research studies have shown that the COVID-19 pandemic has had a significant impact on consumer behavior and perception. Consumers have become more health-conscious, eco-conscious, and price-sensitive, resulting in a shift towards online shopping and home-based consumption (Liu et al., 2021; Zhan et al., 2021). Additionally, the pandemic has resulted in increased digitalization, with consumers relying more on technology for shopping and communication (Buil et al., 2021). The pandemic has also brought about changes in the way consumers perceive and value brands, with a greater emphasis on trust, social responsibility, and sustainability (Nasution et al., 2021). Furthermore, there has been a significant change in the way consumers perceive and use certain products, such as personal care items, due to increased concerns over hygiene and health (Chen et al., 2021).

2.3: Underpinning theory - Value – Norm – Belief (VBN) Model:

This research study demonstrates the VBN model as the underpinning theory of research. The VBN theory (Stern and Dietz 1994; Stern et al. 1999) has undergone extensive empirical testing

and emphasizes the role of personal standards, values, and beliefs in shaping behavior (Ruepert et al. 2016, Yeboah and Kaplowitz 2016). It establishes a causal chain connecting values, ecological beliefs rooted in the new ecology paradigm (NEP), awareness of consequences (AC), attribution of responsibilities (AR), personal norms (PN), and finally environmental behavior (Stern et al. 1999). The generalizability of VBN theory has been demonstrated, and according to Wacker (1998), "the more domains which a theory is extended to, the better theory it becomes" (Wacker 1998). A person's ecological worldview is connected to their VBN theory, which is evaluated by the new environmental paradigm (NEP; see, for example, Dunlap et al., 2000), and values and the norm-activation hypothesis (e.g., Stern & Dietz, 1994) (1977; Schwartz). It asserts moral standards (sometimes known as an individual's personal standards). Being the best indicator of conservation behaviour is a sense of commitment. Personal norms are thus considered as a result of a series of three beliefs: one's self-ascribed responsibility, understanding the effects of one's actions, a person's environmental worldview (— in other words, the NEP), for the prized item, and for the latter, which in turn is based on values that are relevant to the environment i.e., his or her personal norms).

Figure 2.1 demonstrates the underpinning theory as follow:



Figure 2.1: Underpinning theory

2.3.1: Building blocks of VBN

The core building elements of VBN theory are value theory (Schwartz 1992), norm-activation theory (Schwartz 1997), as well as the new ecological paradigm (Dunlap et al. 2000). The VBN hypothesis proposes that factors other than consumption-specific attitudes moderate the relationship among values and the actual behavior (Stern et al. 1999). These elements include the person's own moral standards and beliefs that are distinctive to their behavior.

2.3.2: Values/attitudinal factors and beliefs (GBK, GBT and GBA)

1. Value is the consumer's total evaluation of a product's utility based on views of the gains obtained in comparison to the financial and non-financial contributions made (Gabler, Butler, and Adams 2013). However, because value can be defined in a variety of ways, quantifying and comprehending the value construct can be challenging (Gabler, Butler, and Adams 2013). Consumer values are not objectively established by externalities, but rather are perceived (Han 2021). Values are, therefore, the attitude factors crucial for making judgments that are more consistent during life cycle adjustments (Han 2021). Values are the first tenet of the VBN theory, and research has shown that three key value orientations are predominantly associated to pro-environmental activities. (Jansson, Marell, and Nordlund, 2011)
2. **Biospheric** – People that cherish the biosphere make decisions about how to live sustainably based mostly on the perceived benefits and costs for the environment and biosphere as a whole (Jansson, Marell, and Nordlund 2011)
3. **Altruistic** – Altruistic folks base their green purchasing decisions on what they believe cost and benefit other people (Jansson, Marell, and Nordlund 2011).
4. **Egoistic** – People with an egoistic value orientation primarily weigh the costs and benefits of going green for themselves, which means that if the perceived benefits outweigh the perceived costs, they have gone green, and vice versa (Jansson, Marell, and Nordlund 2011).

Based on the above definitions, in this study, values can be defined as a set of beliefs based on knowledge, trust and level of attachment that people have with a brand and which they use to guide their behavior and how they assess them different situations. There are two important values in the context of green products: biospheric & altruistic values. People who have high biospheric values are concerned about the impact of their actions on nature and the environment, whereas people who have strong altruistic values emphasize the welfare of others. In combination with values, the VBN theory in the next step shows that specific beliefs affect the behavior of consumers (Jansson, Marell, and Nordlund 2011). Consequently, it has been found that if an individual is aware of the environmental consequences of a certain form of behavior and ascribes responsibility to themselves (i.e. being or being not loyal to that brand) that have a high potential to affect actual behavior (Stern et al. 1999).

2.3.3: Personal norms (consumer perceptions)

The PN is the second component of VBN theory and, as such, the attitude aspect most closely associated with actual conduct (Stern et al. 1999). PNs are seen as sentiments of moral responsibility to act, which inspire a desire to take environmental action (Stern et al. 1999). In several situations, PNs have been demonstrated to be future opportunities of green consumer behavior (Stern et al. 1999). Influencing people's views is one technique to bring about change because people's perceptions of norms determine their own conduct (Stern et al. 1999). People pay attention to certain sources of normative knowledge, and the perceptions that result rarely match the rates of behavior that actually occur in the environment (Stern et al. 1999). Companies must comprehend how consumers view value in order to effectively respond to shifting consumer needs and offer consumers competitive value (Han 2021). Value-driven businesses take into account these requirements and desires and concentrate on the aspects of the products that consumers deem advantageous and motivate them to make a purchase choice (Han 2021). Because the consumer's perception process is crucial to marketers, businesses spend a lot of time and energy creating marketing stimuli (Han 2021). Consumers select, arrange, and evaluate information from the outside world into the a meaningful and cohesive entity through the act of perception (Hollensen 2020). However, the term "perception" is typically used in consumer research to refer to the subjective aspect of the phenomenon rather than the complete intricate process of judgments (Hollensen 2020). Because of this, some of the factors should not be viewed as consumer perceptions but rather as attitudes toward the relevant problem (Scholderer 2010).

2.3.4: Behavior (consumer loyalty)

A study on green shopping behavior conducted a few years ago shown that PNs are connected to the acquisition of a variety of minimal involvement non-durable consumer goods (Minton and Rose 1997). The findings support the idea that norms shape green consumer behaviour (Minton and Rose 1997). Consumer loyalty is a practice of consumer behaviour in which consumers stick with certain brands over time and make subsequent purchases from those same businesses (Minton and Rose 1997). Despite convenience or cost, loyal consumers regularly buy products from their favoured brands (Minton and Rose 1997).

2.3.5: Application

The VBN theory suggests that “green behaviors are more likely to occur when a causal series of variables (i.e., values, beliefs, and norms) is present” To the researcher’s knowledge, the VBN model has not yet been discussed and empirically tested for the consumer loyalty for green cosmetic products after COVID 19 outbreak. Following Kiatkawsin and Han, who explored the intention to behave sustainably, this study uses loyalty as outcome variable in the VBN model. It evaluates how values, beliefs (GBK, GBT & GBA) and norms (perceptions) effect consumer loyalty. It demonstrates that the more people endorse green brand knowledge, green brand trust and green brand attachment as their values, the stronger they believe that green cosmetics consumption after COVID 19 outbreak has positive environmental impacts, the more they feel responsible (consumer perceptions) towards environment and the more they feel personally obliged to consume green cosmetics (consumer loyalty). This study incorporates the VBN theory and demonstrates that the more people endorse green brand knowledge, green brand trust and green brand attachment as their values, the stronger they believe that green cosmetics consumption after COVID 19 outbreak has positive environmental impacts, the more they feel responsible (consumer perceptions) towards environment and the more they feel personally obliged to consume green cosmetics (consumer loyalty). Previous research studies argue that in the environmental era the consumers’ purchasing behavior influenced by their green brand elements (Chen and Chang 2012). Consumer behavior has many determinants (Han, Hwang, and Lee 2017). Hence, GBK, GBT and GBA affects consumer behavior (Harris and Goode 2010). It has been found that companies should apply GBK, GBT and GBA of their products considering environmental concerns to raise their competitive advantage and effect the consumers’ loyalty positively (Harris and Goode 2010). GBK, GBT and GBA help in building green brand relations lead towards environmental sustainability and conservation of resources (Han 2021).

2.3.6. Integration of VBN Model in the Post COVID 19 scenario:

environmental behavior, remains relevant in the post COVID-19 scenario. The pandemic has heightened awareness of the interdependence of human health and the natural environment, leading to changes in consumer behavior and an increased interest in sustainable products and services (Chauhan et al., 2021). The VBN model's focus on values, beliefs, and norms aligns well with this shift in consumer behavior towards more environmentally conscious choices. Additionally, recent studies have explored the application of the VBN model in the post-pandemic

context, such as in examining consumers' pro-environmental behavior regarding online shopping (Zhang et al., 2021). Thus, the VBN model remains relevant and useful for understanding consumer behavior in the post-COVID-19 scenario.

2.4: Proposed Research framework

The theoretical framework proposed for this study is based on the relationships among exogenous variables, mediating variables, and an endogenous variable in the context of consumer behavior towards green cosmetic brands after the COVID 19 outbreak in Malaysia. The exogenous variables include green brand knowledge, green brand trust, and green brand attachment, which are considered external factors that may influence consumer behavior. The mediating variable is consumer perceptions, which is expected to play a role in transmitting the effects of the exogenous variables to the endogenous variable, which is consumer loyalty.

Figure 2.2 demonstrates the proposed research framework as follow:

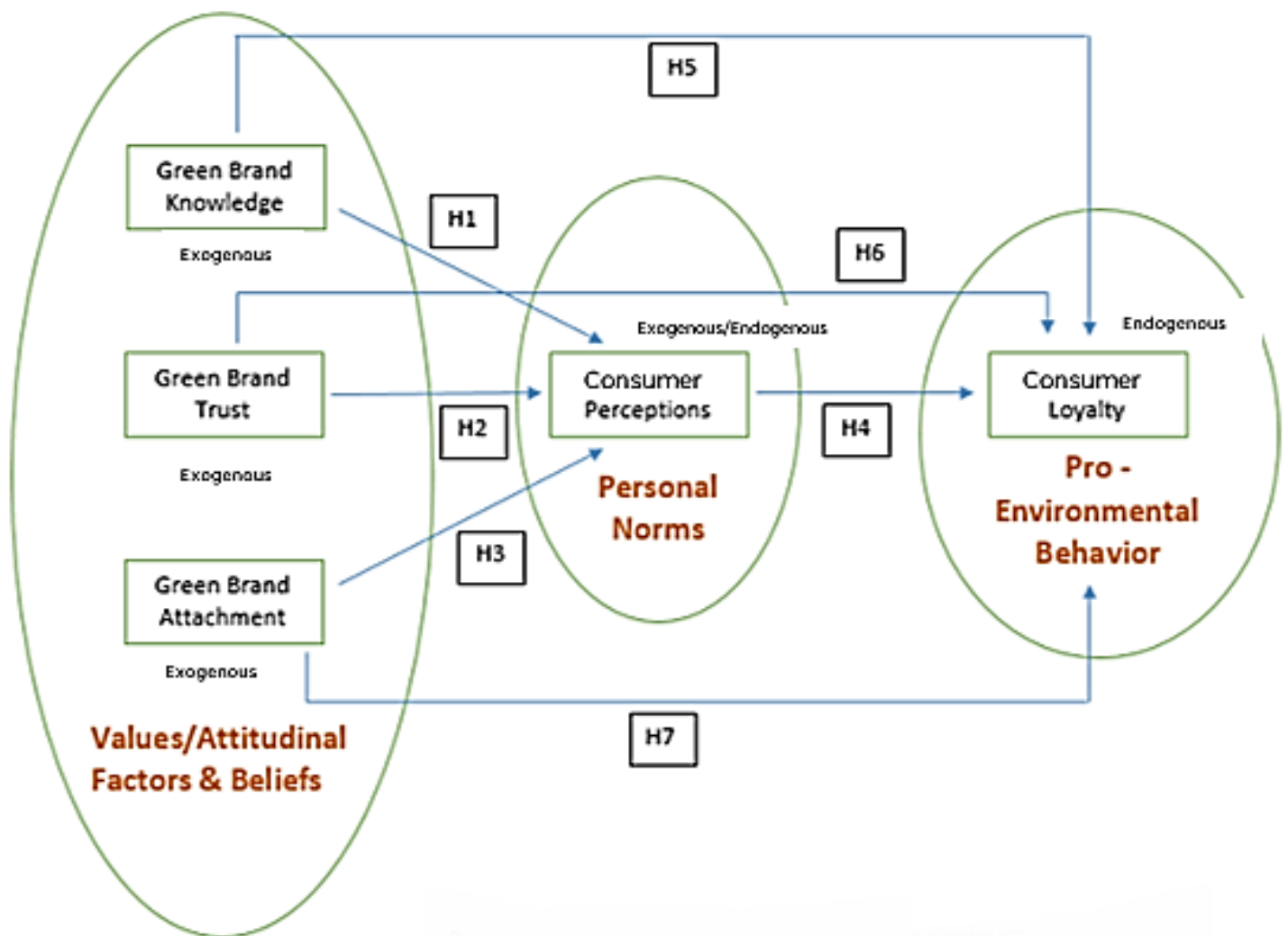


Figure 2.2: Theoretical framework

2.5: The hypothesis development

2.5.1: Green brand knowledge and consumer perceptions

Brand knowledge is defined as the accumulated experience of using a brand directly or indirectly which results in the recording of brand identity (logo, color, name etc.) in the mind of consumer (Alloza 2008). Brand knowledge when linked with green is the process of information provision to consumer about those environmentally friendly products which change the consumer behavior to prefer and consume them (Alloza 2008, Keller 2003). Keller defined two dimensions of green brand knowledge i.e., green brand awareness and green brand image (Keller 2003). For green brand knowledge, an environmentally friendly brand should conduct green marketing activities to raise awareness and provide information about the brand to its consumers (Keller 2003). For brand image, green brands need communication and differentiating factors focused on environmental concerns to gain the competitive advantage and secure a certain position in the mind of consumer (Keller 2003).

Huang, Yang, and Wang (2014) define GBK as a "green brand node in memory," where a range of associations connect a brand with sustainability awareness and concerns. This definition is in line with Keller's (1993) concept of brand knowledge. This differs from "green knowledge," which measures how informed consumers are of the environment as a whole (Lin, Lobo, & Leckie, 2019). This means that, in contrast to green knowledge, Green Brand Knowledge (GBK) is used to record consumers' specific knowledge based on a brand's sustainability performance and concerns. Consumers with a high level of green brand knowledge have a much better pro-environmental attitude and have a stronger intent to purchase green products for consumption (Suki 2016). The researcher further explored green brand knowledge and further claimed that green brand awareness and green brand image are the two dimensions of green brand knowledge (Pan, Sheng, and Xie 2012). Recent studies explored that green brand knowledge is positively affected by the consumer attitudes and general concerns for environmental values towards green brand (Butt et al. 2017).

Consumer perceptions are formed on the basis of interaction and the entire experience provided by the brand (Alloza 2008). A recent study on cosmetics industry confirmed that there is a positive relationship between green brand knowledge and consumer perceptions based on the experience they have with the brand (Han 2021). Researchers claim that green brands need to convey their environment related messages to the targeted consumers in ways that would interest consumers to

learn more information about the brand's green efforts and enhance their knowledge about it (Han, Hwang, and Lee 2017). It is commonly known that consumers could not be characterized depending on just one sort of behavior. Consumer buying behavior is influenced by the products that are accessible to satisfy their needs, which is how consumer behavior and the situation in which it occurs interact. However, the psychological component of perception has a significant impact on behavior.

According to Korzen and Lassen (2010), different settings lead to different judgments. The act of understanding through the use of the one's perceptions and/or the thinking is referred to as perception. Therefore, perception is related to developed learning or experiences as well as basic senses like vision, taste, and smell. Early habits are mostly formed by non-cognitive learning processes including conditioning and imitation. Since 2000, green marketing has gained popularity in the western market after being criticized in the 1990s (Ottman et al., 2006). Due to the greater danger that environmental issues pose to Asian populations; the "going green" movement is increasingly expanding here (Lee, 2008).

As a result, consumer perceptions are fluid, and there are frequently discrepancies between what consumers think and what they really do. Models have been created to forecast customer behaviour based on consumer perceptions, some of which fail to take context into consideration. Based on the concept of green initiatives, consumer perceptions and attitudes are also changing. Consumer interest in environmentally friendly products has increased recently, and green activities have also become increasingly popular. The majority of the consumers are enthusiastic young consumers. Because they have more education than in the past, they think differently and have a more developed sense of responsibility. About green consumerism, many researchers have previously published their findings. Since the 1980s, academics and industry professionals have become quite interested in green marketing. Based on this, the following hypothesis is proposed:

H1: IV has a positive influence on DV.

2.5.2: Green brand trust and consumer perceptions

A novel concept known as "green brand trust," which is defined as "an eagerness to depend on a brand based on a belief or expectation resulting from its credibility, goodness, and ability about its environmental performance," was proposed in reference to Blau (1964), Schurr and Ozanne (1985), and Ganesan (1994). (Kieserling 2019, Chen 2010). There are several factors which constitute green brand trust. It includes the general reliability of consumer on brand's environmental commitments, consumer's dependability on brand's environmental performance, consumer's trustworthiness on brand's environmental argument, coherence between consumer's expectations towards brand's environmental concerns and ability of the brand to keep its promises and commitments for environmental protection (Joo, Tjhie, and Jaikishin 2020).

Green cosmetics, also called, organic or natural cosmetics are those products which are free from the synthetic elements, made up from the natural raw material and are both, environmental and user friendly (Group 2011). The natural and organic cosmetics which are also known as green cosmetics are those cosmetics which are made up of natural raw material and are totally free of any kind of harmful and synthetic chemicals or elements (Salman 2016). These cosmetics are friendly to both the user and the environment as they don't harm them in anyway because of their green origin (Bempong 2017). Regarding consumer perception, it has been found that consumers' environmental concerns can increase (or decrease) the value of a good or service and can influence their brand preferences and views (Chen 2010).

Before making a purchase, consumers consider a product's environmental impact. They are really interested in things that are both environmentally friendly and beneficial (Rios et al., 2006). However, consumer perceptions of a brand are largely influenced by the environment that the brand is connected with (Wilkie, 1986). That implies that brands can reach consumers by adopting the idea of environmental initiatives. Young consumers are more supportive of environmentally friendly behaviors. Though several studies have looked into the relationship between consumer's knowledge toward and willingness to buy green products and their level of green knowledge (e.g., Barber, Taylor, & Strick, 2009), little has been said about the impact of a more brand-related construct, GBK, on CP (e.g., Huang, Yang, & Wang, 2014; Okur & Saricam, 2019; Suki, 2016). Brand trust may require emotive attachments based on consumers' perception of the brand because it is a condition of positive and confident expectation (Chen 2010).

Consumers are knowledgeable about green products, according to Indian researchers, and they also recommend that the relevant authorities strengthen its branding and communication in order to encourage green behavior trust (Bhatia & Jain, 2013). According to Pillai and Junare's (2016) findings from a different study, the majority of consumers are aware that environmentally friendly items are better for the environment, higher quality, and are more expensive. It can be clearly differentiated from conventional products and brands. Soerjanatamihardja and Fachira (2017) discovered that consumers of cosmetics in Indonesia are highly informed regarding green marketing and sustainable products. These results show that the people are becoming increasingly conscious towards the brands they trust. Consumers from the Asian region, in particular, are more enthusiastic in green products and green practices.

In order to illustrate how businesses are acting in the interests of the environment and to speak to changing customer views, a number of new theories and concepts have been established. Green marketing, which first gained prominence in the 1990s, is one of the most intriguing ideas from a marketing perspective. Companies began concentrating on developing marketing strategies that would address consumer concern for both the environment and communities while still maintaining profitability as they became aware of the increasing consumer interest in environmental and social concerns. Since then, environmental concerns have become a significant component of business marketing efforts. (Finisterra do Paço et al. 2009, 18; Polonsky 1994)

Based on this discussion,

H2: IV has a positive influence on DV.

2.5.3: Green brand attachment and consumer perceptions

Green brand attachment has been the act of purchasing green goods in order to enrich one's own life, convey one's care and positive feelings toward the environment, tie one's current green image to one's ideal future self, and enable oneself to address issues (Chen et al. 2017). The researchers also claimed that as the brand becomes the part of consumer's life, it has an emotional foundation for commitment, trust, affection, intimacy and self-linkage to establish the consumer brand relationship (Chen et al. 2017). Research has found three consumption type of green brand attachment which includes the purchase of green products for self-gratification and expression of positive emotions and concerns towards the environment, enriching oneself and binding the green image with the future ideal self and buying to solve problem which an individual may needs (Chen et al. 2017).

Brand attachment and consumer perceptions are two different but easily misinterpreted concepts. Brand understood to refer to an individual's affective bond to the brand and their readiness to react to the brand, which takes long-term development, as opposed to consumer perception, which shows an individual's positive or negative judgement of the brand and developed quickly. Consumer perception is formed in the cognitive stage, and brand attachment is established in the emotive stage, depending on the amount of required development time and management level. The level maintains the relationship with the brand and eventually result in a much more favorable consumer perception than the former, which is the consumer's appraisal of the brand and has a weaker link to the brand.

According to research, adherence to green practices and preferences for green items are crucial in decision-making. Customers favor green brands that promote goods while protecting the environment. The development of an efficient marketing plan for promoting environmentally sustainable products must take into account these consumers' perceptions. According to research, brands that implement green practices and successfully communicate them to their target audiences are perceived more favorably by consumers. Since competition is already severe in many industries, differentiating with environmentally friendly features can provide businesses the advantage they need. Investments in green marketing are anticipated to provide value to businesses and improve how consumers view them and the items they advertise. (Chen & Chang 2013; Ginsberg & Bloom 2004).

Consumers who identify with a brand perceive it as a partner in a connection that aids in their fulfilment of personal objectives and alleviation of difficulties. According to this study, "green brand attachment" refers to the level of consumers' judgments of a particular green brand. As the brand integrates into the consumer's life, it sets the emotional groundwork for intimacy, self-linkage, commitment, and affection, all of which have significant implications for developing a relationship between the consumer and the brand. Brand attachment is strongly influenced by consumer perceptions. As a result, consumers evaluate alternatives' green initiatives in relation to loyalty within a classification where consumer perception is defined as the consumer's assessment of the consistency of the product specification. Consumer opinions on a product's superiority are tied to consumer perception. Consumers evaluate a product's quality overall based on their expectations and prior experiences. Consumer perception is typically dependent on a range of informational cues that people identify with the product, and it may have little to no relationship to the actual overall quality or superiority of a product.

Additionally, green brand attachment is an important factor in forging an individual's emotional ties to a certain brand after getting specific green initiatives from the companies and fewer skeptical actions. In addition, luring consumers to a certain brand undoubtedly builds green brand consumer loyalty. The authors assert that "a collection of assets and liabilities of the brand related environmental issues and green pledges are in congruence with a brand such as its symbol & name, that can materially reduce or increase a brand's value through in that particular brand's product or service." Consumers who identify as green is more attached to a brand if they believe it represents their values (Chen et al. 2017). Green brand attachment is utilized to segment the market and create effective advertising campaigns for certain consumer groups, leading to favorable consumer impressions of a brand (Chen et al. 2017). Based on this, the following hypothesis is proposed:

H3: IV has a positive influence on DV.

2.5.4: Consumer perceptions and consumer loyalty

Previous researchers defined consumer loyalty as a positive attitude of the consumer towards the company which lead to repeat purchase conduct and which is developed to create long term mutually beneficial interaction by the business with its consumers (Pan, Sheng, and Xie 2012). Research found that positive consumer perceptions which give consumers favorable experiences with the brands results them to be attached with that brand (Stampa, Schipmann-Schwarze, and Hamm 2020). This sheds light and support to the notion that over a period of time, positive perceptions regarding a brand is a prerequisite in the development of consumer loyalty (Japutra, Ekinci, and Simkin 2019). Researchers claimed that in the multitude of industry environments, the brands having big market share are more likely to have a faithful consumer base than those brands who have tiny market share and regarded consumer loyalty as dimensional (Noorham, Syed Anuar, and Guliling 2020).

Consumer loyalty emerges in three stages: cognitive sense, effective sense, and behavioral sense (Oliver, 1999). According to the literature, one of the key elements affecting perceptions of consumers and their buying behavior is consumer loyalty, that is a direct effect of the company's brand trust (Souiden and Pons, 2009). Companies must improve consumer loyalty to enhance buying behavior (Chi et al., 2009); this can be accomplished by highlighting the brand's commitment to building trust with its consumers. Consumer loyalty and trust levels are directly correlated (Flavian et al., 2006; Sirdeshmukh et al., 2002). Because brand trust influences potential purchase intent through factors like consumer perceptions.

Consumer loyalty is widely regarded to be crucial to attaining company objectives and to have an impact on business performance (Anderson, Fornell, & Lehmann, 1994). Consumer loyalty is perhaps a result of consumer views and a key indicator of a company's past, present, and performance outcomes (Lam et al., 2004). It also affects the creation of a long-lasting competitive advantage (de Ruyter et al., 1998). The difference between what a customer expects and what they actually receive affects how loyal they are overall (Gounaris et al., 2007). The consumer first establishes clear expectations for the value he or she expects to obtain from the business and only feels pleased after receiving "adequate doses" of that value.

According to a Romanian study, consumer loyalty helps businesses outperform rivals and better meet the demands and preferences of consumers (Dabija 2018). The desire to purchase eco-

friendly goods, practice responsible consumption, participate in environmental protection initiatives, and safeguard resources is growing among people (Dabija 2018). These fundamental components are essential for creating favorable consumer perceptions. The usage of cosmetics is varied as per population background where young generation tends to use cosmetic for aesthetic purposes, while older generation tends to use cosmetic products to counteract the effects of aging (Bempong 2017). Communication as well as well-structured offers of green cosmetic products have increased consumer awareness of environmentally friendly and green products, which has helped to win their loyalty and encourage them to adopt responsible (green) consumption habits (Dabija 2018).

Early studies of consumer loyalty were based on actions like ongoing use and repeat purchases. Later studies revealed that conduct does not distinguish between true and fake loyalty, and psychological variables started to appear in the literature. Positive views are thought to precede recurrent consumption, according to researchers. Oliver claims that taking into account both loyal actions and loyal attitudes has gained scholarly acceptability (Oliver, 1999). One of the factors that has been extensively researched and is essential for success in the marketplace is consumer loyalty (Oliver, 1999). It is significant because it has a favorable impact on businesses and increases their ability to reap the rewards of having a customer base of loyal consumers. Maintaining an existing portfolio of consumers is less expensive than adding new ones through consumer acquisition. Additionally, loyalty make consumers more resistant to potential offerings from the competitors (Oliver, 1999).

Consumer loyalty is viewed as a behavioral and attitudinal notion. It relates to the extent to which a consumer's propensity is positively oriented toward a brand as an attitudinal notion. This can be shown, for instance, in a consumer's readiness to consistently and repeatedly refer a brand to other consumers over a particular length of time. Similar to that, as a behavioral term, it illustrates the consumer's resolve to use a preferred brand in spite of obstacles related to money and geography (de Ruyter et al., 1998). This research defines loyalty as the consumer's positive attitude toward the brand, which can be shown in both his or her loyalty to buy from the brand again as well as the positive recommendations to friends and family. This understanding is in line with the existing literature in the cosmetic industry (Bempong 2017).

Based on this, the following is proposed:

H4: IV has a positive influence on DV.

2.5.5: Mediating role of Consumer perceptions between GBK and Consumer loyalty

According to prior studies, consumers who have purchased green products and have a pleasant experience with them as well as some brand knowledge about the environment are more likely to show loyalty to those green items by repurchasing them (Lin et al. 2018, Gelderman et al. 2021). Additionally, a lot of consumers are wary of the value of green products and have limited understanding about the dependability of green businesses (Suki 2016). As a result, consumers are more likely to seek out additional information and educate themselves on green brands and the materials used in green products (Ansar 2013).

In order to develop a market for reliable green brands, such as "green" products, green brand knowledge and loyalty are necessary. Knowledge, in general, reflects the factor that influences all phases of the decision-making process and can influence attitudes toward a certain activity in either a positive or negative way (Mei et al., 2012). Brand knowledge, according to Keller (1993), is "a brand link in memory to which a range of connections are attached." Brand awareness and brand image are two noteworthy aspects of brand knowledge (Keller, 1993). Brand awareness and brand image come together in a certain way to form brand knowledge.

Green brand awareness refers to the ability of the consumers to recall and recognize that a brand is safe, green and sustainable and environmentally friendly (Tseng, 2013). Brand name recognition is related to the likelihood that the brand elements are remembered and with whom it is remembered (Keller, 1993). Additionally, the green brand knowledge can be characterized as the consumer's cognitive structures of a brand in connection with the display and has symbolic significance connected to the unique attributes of the brand (Punyatoya, 2015). Chen (2010) identifies the green brand knowledge as a comprehensive collection of brand impressions, concepts, and customer issues associated with sustainability and environmental concerns.

While other earlier studies, including Wolsink's (2007), were unable to find any connections between green products and a desire to make green purchases, however, some other research contend that the willingness to make green purchases does not necessarily directly depend on one's level of knowledge about the environment (Wang et al., 2019). Even though some studies indicate that there is no correlation between green purchasing perception and green brand knowledge, other

studies indicate that green brand knowledge has a detrimental impact on pro-environmental attitudes (Wang et al., 2019). Numerous studies have revealed that consumers' perceptions and actual purchases of green items are positively impacted by their environmental knowledge (Suki, 2016). According to some earlier studies, people's perceptions of green information frequently precede their decision to make green purchases and ultimately leads to loyalty of a consumer towards that particular brand (Wang et al., 2019).

Perceptions are characterized as a person's subjective assessment of a product or brand (Bodur et al., 2000). The perceptions of the green brand are linked to both the consumers' entire judgment of the brand and his or her preferences, which embody his/her likes and dislikes (Suki, 2016). Given the growing level of consumer environmental awareness, consumers' perceptions of ecologically friendly (green) items are relatively positive (Cheah & Phau, 2011). When forecasting consumers' desire to purchase green products, perceptions serve as the most reliable explanatory factor (Chyong et al., 2006). The consumer's opinion of green branding seems to be very favorable (Singhal & Malik, 2018). Consumers' overall opinions of a brand, based on the one's trademark beliefs, are referred to as perceptions of the brand (Punyatoya, 2015).

Consumer loyalty is crucial for any business as it makes a brand worth of million or billion dollars and is established when a brand becomes a consumer preferred option (Noorham, Syed Anuar, and Guliling 2020, Japutra, Ekinici, and Simkin 2019). Researchers claimed that in the multitude of industry environments, the brands having big market share are more likely to have a faithful consumer base than those brands who have tiny market share and regarded consumer loyalty as dimensional which included both, attitudinal engagement and behavioral purchase intentions (Noorham, Syed Anuar, and Guliling 2020). Therefore, the positive behavior of consumer towards brands may also be considered as brand loyalty (Noorham, Syed Anuar, and Guliling 2020).

Hence, the following hypothesis is proposed:

H5: Consumer perceptions mediate the relationship between green brand knowledge and consumer loyalty to green cosmetics after COVID 19 outbreak in Malaysia.

2.5.6: Mediating role of Consumer perceptions between GBT and Consumer loyalty

The three beliefs of compassion, ability, and integrity are what lead to trust. Trust is very much an expectation that is maintained by one entity as a word, promise, or even a declaration that the other side can rely on (Chen and Chang, 2012). Additionally, since trust is a key component of consumer behavior, a brand's capacity to foster trust influences consumers' desires to make a decision (Emre and Paul, 2016). Trust is classified as a brand's sincerity in its claims to be capable of fulfilling its promises. In fact, trust can encourage consumers to make purchases while also lowering their risk perception (Yang and Zhao, 2019).

Natural and organic compounds have long been employed in the cosmetics industry, but because most consumers were unaware of environmental problems, it wasn't important to use these natural resources. Essentially, the industry deals with continually changing beauty routines, techniques, and practices that are impacted by the latest worldwide trends. In light of this, the cosmetics business has also seen a rise in environmental consciousness on a global scale. Consumers place a premium on goods that don't hurt the environment, human health, or animals. Additionally, shoppers are looking for goods that promote fair trade. Because the issue is becoming more prevalent in the cosmetics industry as well, businesses are being obliged to spend in developing green marketing strategies (Jean-Vasile & Nicol, 2017).

The brand connection variable "brand trust" is significant in influencing purchasing behaviour for long-term brand success (Esch et al., 2006). The degree to which consumers trust brands' environmental statements influences their buying behaviour (Emre and Paul, 2016). According to Chen and Chang (2012), in the current environmental period, consumer purchasing decisions are influenced by their level of green trust. Consumer trust has a positive impact on consumer perceptions, as shown by (Lu et al., 2010). Previous researcher also demonstrate that consumer loyalty would be positively impacted by customer trust (Chen & Chang, 2012). Consumer trust is the key factor in determining long-term consumer behavior among the many other factors that influence it (Lee et al., 2011). Thus, consumer loyalty is influenced by consumer trust and consumer perceptions play a mediating role in this relationship (Harris & Goode, 2010).

As businesses became aware of the growing public interest in environmental and social concerns, they began to concentrate on developing marketing techniques that would address the consumer concern about the environment as well as society while also still increasing profits. Since then,

environmental considerations have become a significant component of business marketing efforts. (Finisterra do Paço et al. 2009, 18; Polonsky 1994, 1; Additionally, shifts in customer views and behaviour have prompted companies to make investments in going green in their operations on a bigger scale and adhering to eco-friendly operating procedures. As a result of the already heated competition in many industries, differentiating with environmentally friendly features can provide businesses the advantage they need. The value of putting money into green marketing is anticipated to grow for businesses as well as customer perceptions of these businesses and the items they advertise (Chen and Chang, 2013)

Positive consumer perception mostly refers to circumstances that can make someone happy about anything, which are typically followed by someone's feelings and propensity to look for items. According to Rangkuti and Sulistyawati (2014), customers' conviction in the product, which was accompanied by their ability to buy the product, was the foundation for the creation of brand loyalty toward the product. According to Suki (2016), consumers have a favorable opinion of a brand and are more likely to acquire eco-friendly products that have fewer negative effects on both the environment and society. Consumer loyalty towards a green brand is defined as "the likelihood because of the trust that a consumer puts on a brand and that a consumer would buy a certain brand as a result of his or her environmental demands" by Netemeyer et al. (2005) and Morrison (1979).

Green brand trust in the environmental claims for brands has an impact on purchasing decisions (Sayed, El Saghier, and Sadek 2021). Previous research studies argue that in the environmental era the consumers' purchasing behavior influenced by their GBT (Chen and Chang 2012). Consumer perceptions positively affected by GBT as indicated by (Lin and Lu 2010). Previous research shows that GBT would positively influence the notion of consumer loyalty (Chen and Chang 2012). Consumer behavior has many determinants, the main determinant for a long-term consumer behavior (i.e., consumer loyalty) is GBT (Lin et al. 2018).

Hence, this study argues that consumer perceptions positively mediate the relationship of GBT and consumer loyalty.

H6: Consumer perceptions mediate the relationship between green brand trust and consumer loyalty to green cosmetics after COVID 19 outbreak in Malaysia.

2.5.7: Mediating role of Consumer perceptions between GBA and Consumer loyalty

For businesses and marketers, satisfaction and loyalty are crucial and significant themes in marketing literature. The significance of these ideas are viewed from two angles: first, in the advantages they provide for businesses, and second, in the various studies and initiatives that have focused on the connection between improve the attachment with a brand by building positive perceptions and consumer loyalty (Bloemer and Kasper, 1995; Bloemer and Lemmink, 1992; Bowen and Chen, 2001). The idea of brand attachment originally derived from Bowlby's attachment theory (1982). Brand attachment, which reflects the depth of the connection customers feel with the brand, is a crucial concept in marketing literature. Their behaviour is subsequently influenced by this bond, which promotes business profitability as well as consumers' lifetime value (Theng So et al., 2013; Thomson et al., 2005). Psychological attachment to a particular brand, as expressed in ownership and emotional significance, is a key factor in determining consumer behaviours like repeat brand purchases and willingness to invest resources (such as money and time) to obtain the brand, ultimately leading to brand loyalty (Lee and Workman, 2015).

A strong emotional bond between a consumer and a brand has many different meanings, however Thomson et al. (2005) defined brand attachment of a consumer as the positive emotional consequences of that connection. By conceptualizing emotional bonding, the level of affection, passion, and the connection to assess attachment, they were among the first to construct brand attachment measurements. According to further study, brand attachment captures both emotional and cognitive connections, showing the relationship between the brand and the person (Japutra et al., 2014; Park et al., 2010). The scale provided by Park et al. (2010) places more emphasis on the cognitive elements, such as brand availability and coherence with consumer identity.

In other categories, the link between the consumer and the brand has been described as from psychological dimension to that same 2 dimensions of existential attachment as well as functional attachment, where only the existential attachment produces emotional and affective ties (Heilbrunn, 2001). Existential attachment is described by (Lacoeuilhe, 2000) as "a psychological variable describing an affective association in the permanence and is able to be changed (separation is unpleasant) with the brand, and exhibiting a psychological closeness relationship with it" (Bahri-Ammari et al., 2016). A relationship-based construct that "reflects the emotional connection linking a consumer with a consumption firm (e.g., brand, person, place, or product)" is

what is referred to as brand attachment (Park et al., 2006). The cumulative experience throughout life and the numerous interactions are what lead to this emotional connection between the brand and the consumer.

Loyalty is an important concept, especially when events take place that could cause the connection between the two role-players to fall apart (Guillard and Roux, 2014; Kwang-Ho and Kim, 2011). Consumers and brands are these two role players, according to marketing literature (Bahri-Ammari et al., 2016). According to Oliver (1999), consumer loyalty is the firmly held intention to continue patronising or making purchases from a particular brand in the future, despite potential situational factors and marketing initiatives to persuade consumers to switch (Lam and Shankar, 2014). In fact, Oliver (1999) suggests that a phase-by-phase process develops a person's devotion to any consuming product. When consumers stick with a brand, they see it as a partner in a partnership that aids them in achieving their own objectives and overcoming difficulties (Lin, Lobo, and Leckie 2017).

According to Oliver (1999), the loyalty develops in four stages: cognitive, affective, conative, and action (Sarkar, 2014). A broader classification divides it into two components: attitudinal loyalty and behavioural loyalty, the former of which has three components: cognitive, affective, and conative. As a result, the literature review indicates both attitudinal and behavioural brand loyalty, which are two distinct components of brand loyalty (Aaker, 1991; Oliver, 1999). Specifically, behavioural loyalty relates to the readiness to repurchase the same brand, whereas attitudinal loyalty is described as the level of commitment an individual has to the brand (Hwang and Kandampully, 2012).

According to this study, "green brand attachment" refers to the degree of consumers' perceptual ties to green products (Lin, Lobo, and Leckie 2017). As the brand integrates into the consumer's life, it provides the emotional groundwork for intimacy, commitment, self-linkage, and affection, all of which are crucial for developing a relationship between the consumer and the brand (Musgrove, Choi, and Chris Cox 2018). As a result, they would be more attached to such green brands (Musgrove, Choi, and Chris Cox 2018). They became more emotionally linked to the green companies when they believed they were becoming more ecologically conscious following the COVID 19 outbreak (Musgrove, Choi, and Chris Cox 2018). Thus, this study argues that there is

a positive mediating role of consumer perceptions between green brand attachment and consumer loyalty and hence, proposes the following hypothesis:

H7: Consumer perceptions mediate the relationship between green brand attachment and consumer loyalty to green cosmetics after COVID 19 outbreak in Malaysia.

2.6: Summary of Research Hypotheses

Based on this, the following hypotheses are proposed:

H1: IV has a positive influence on DV.

H2: IV has a positive influence on DV.

H3: IV has a positive influence on DV.

H4: IV has a positive influence on DV.

H5: Consumer perceptions mediate the relationship between green brand knowledge and consumer loyalty to green cosmetics after COVID 19 outbreak in Malaysia.

H6: Consumer perceptions mediate the relationship between green brand trust and consumer loyalty to green cosmetics after COVID 19 outbreak in Malaysia.

H7: Consumer perceptions mediate the relationship between green brand attachment and consumer loyalty to green cosmetics after COVID 19 outbreak in Malaysia.

2.6: Chapter Summary

An detailed literature review is presented in Chapter 2 of this study to lay the foundation for the study's theoretical framework. It is divided into multiple sections, and the first one clarifies the differences between green branding & green marketing while highlighting the importance of green brand components like knowledge, trust, & attachment in influencing consumer behavior. The chapter examines customer demographics, psychographics, and behavior toward green brands in addition to delving into the reasons companies in the cosmetics sector choose to use green branding. The following section provides a detailed analysis of the cosmetics sector, including all of its facets, including trends, usage patterns, and the particular environment in Malaysia. The chapter highlights the emergence of green cosmetics to be a response to the decline of chemical

cosmetics and presents the Value-Norm-Belief (VBN) model as a theoretical framework to be used in the study, connecting the gap among consumer values, beliefs, perceptions, and loyalty in relation to green cosmetics consumption, especially following the COVID-19 pandemic. The fundamental ideas and theories that will be covered in later research chapters can be understood by starting with this chapter.

Chapter 3 – Methodology

3.0: Overview of the Chapter

The research approach for this research is described in this chapter and is based on the research goals and the literature review from the previous chapter. This study aims to determine how green brand components affect consumer behavior toward green cosmetics and consumer loyalty towards them in Malaysia during the COVID 19 outbreak. The objective of this chapter is to present a comprehensive analysis of the research methodology. In order to help readers, choose the appropriate approach for addressing their research issues, the chapter begins with a quick introduction of the most popular research paradigms and methodologies. The significance is to answer the question of how green brand elements affect green cosmetics purchases by Malaysian consumers after the COVID 19 outbreak. The purpose of the research design, how it meets the study's objectives, and how it provides the best possible data gathering method are all discussed throughout the chapter. The nature and quality of quantitative research are then examined, as well as its application and utility in the context of green marketing and in relation to research aims, objectives, and research questions. The focus then shifts to data collection and analysis methods and procedures, including a thorough examination of design and sampling strategy. The data collection and analysis techniques, as well as the sample criteria for the study's participants, are all described in great depth. The data collection procedures are thoroughly described. The approaches and issues of data analysis are then examined. Finally, crucial ethical considerations are discussed in this chapter.

3.1: Research Paradigms

According to Guba and Lincoln (1998), a research paradigm is made up of basic assumptions about reality that constitute the world view that determines the nature of the world (Lincoln, Lynham, and Guba 2011). Until recently, as stated by (Bryman and Bell, 2008; Creswell, 2012) there were two prominent research theories: positivism and interpretivism (Lincoln, Lynham, and Guba 2011). Positivists consider the world as independent from social reality, objective, and external. The role of the researcher should be unbiased, and he or she should not inject bias into the study (Chapman et al. 2005). A deductive logic of inquiry is used to collect data (Chapman et al. 2005). In quantitative data gathering processes, large sample sizes are utilized to generalize findings to a larger population (Chapman et al. 2005). This method is also considered to be dependable,

repeatable, and quantitative. On the whole, positivism uses quantitative surveys and statistical methodologies to focus on facts, statistics, validity, and generalizability (Easterby-Smith, Lyles, and Tsang 2008).

Philosophical assumptions to underpin the research inquiry

Following the examination of the research paradigm, the philosophical assumptions that frame the investigation must be described and discussed. Researchers should understand the philosophical assumptions that underpin the research paradigm (Rahman 2020) as failing to do may jeopardize the research process' quality (Easterby-Smith et al., 2008; Bryman, 2012). Clarity and comprehension of philosophical assumptions can help with study design and allow a researcher to make well-informed decisions on the research approach and strategies to employ (Bryman and Bell, 2008; Bryman, 2012; (Denzin and Lincoln 2011). According to Denzin and Lincoln (2011), each research paradigm has three key assumptions: ontological, epistemological, and methodological, all of which impact the researcher's methodological decision (Denzin and Lincoln 2011). According to Denzin and Lincoln, "the researcher approaches the world with a web of ideas and a framework (theory and ontology) that specifies a set of topics (epistemology) that he or she analyses in specific ways (methodology and analysis)" (Denzin and Lincoln 2011). The research questions to be explored, the method of investigation, and the nature and interpretation of the facts gathered all have an impact on the decision to adopt a particular perspective on nature and knowledge of the world (Khalid, Abdullah, and Kumar M 2012).. To put it another way, philosophical beliefs serve as a foundation for deciding which methodological technique to adopt. Three interrelated questions were proposed by Denzin and Lincoln (2011): ontological, epistemological, and methodological. I'll respond to these questions in accordance with the research question I've chosen (Denzin and Lincoln 2011).

Ontological stance

Positivism is based on realism ontology, which maintains that observations are theory-independent and that generalizations of the observed are feasible. Lincoln and Denzin (Denzin and Lincoln, 2003). This philosophical school is linked to a variety of research methods, including positivist and quantitative approaches (Sukamolson 2007). The quantitative technique is both confirmatory and deductive, and it is rather old (Sukamolson 2007). Quantitative research is based on statistics generated through statistical analysis (Easterby-Smith, Lyles, and Tsang 2008), is objectivist, and ignores the researcher's values.

What exactly does it imply to be a part of reality? The ontological viewpoint says that reality is a collection of phenomena rather than a single, objective phenomenon (Bloomfield and Fisher 2019). A study is carried out by a researcher who uses philosophical knowledge of ontology to determine the results (Bloomfield and Fisher 2019). Any study strategy must be justified in terms of ontology and human nature assumptions that represent the researcher's own viewpoint on the social environment (Bloomfield and Fisher 2019). It is easier to choose the basic paradigm that serves as the research inquiry's foundation after the ontological assumptions of the social environment in which an individual lives have been identified (Bloomfield and Fisher 2019).

The critical realism paradigm acknowledges that our observations, perceptions, and interpretations of the world around us are all subjective. The ontological assumption of critical realists is that there is a genuine reality that exists independently of our perceptions, beliefs, and constructions, and that our understanding of it is based on our own perspectives (Tuli 2010). When a researcher sets out to examine and uncover a phenomenon, his or her prior knowledge and experiences influence and shape the meanings and interpretations of the data collected (Tuli 2010). The purpose of my study, which is focused on the ontological framework of critical realism, is to define and explain the impact of green brand components on consumer loyalty for green cosmetic products following the breakout of COVID 19, and contribute to the body of knowledge (Goertz and Mahoney 2012). The purpose of this research is to look into the effect of green brand aspects on consumer behavior in the context of loyalty in Malaysia. As a result, claiming any subjective observation or making a subjective forecast is beyond the scope of my research.

Epistemological stance

According to the knowledge claim, how can we get knowledge of the world and reality? Epistemology is the knowledge assertion about how a researcher would obtain information about a person's social situation (Goertz and Mahoney 2012). What we know about real-world knowledge and how we can acquire it is referred to as the epistemological stance (Goertz and Mahoney 2012). These philosophical problems compel a researcher not just to investigate the nature of knowledge, but also to reach a consensus on what we believe we can learn about (Goertz and Mahoney 2012). Positivism is one of many epistemic perspectives, as opposed to many forms of social constructionism (Goertz and Mahoney 2012). Positivism is founded on deductive logic of inquiry and prioritizes objective knowledge of the phenomenon, whereas social constructionism

is based on the idea that all knowledge is socially constructed within distinct socio-cultural settings rather than being a real reflection of the world (Goertz and Mahoney 2012).

3.2: Research design

Research designs are crucial because they offer guidelines for conducting rigorous investigations in the most effective way to achieve particular goals (Clark & Creswell, 2008). To illustrate the sample size of the participants, the researcher started by identifying and summarizing the data that was obtained from the quantitative data collection. Due to the descriptive nature of the quantitative analysis used in this study, it is analyzed with an emphasis on objective measurements and numerical input. Different approaches are used to interpret the quantitative data in order to find supporting evidence that helps with this research's goal. In this research, the researcher implemented quantitative techniques. To be more specific, the researcher employed a quantitative approach using a survey questionnaire to collect data on green brand elements and their impact on consumer loyalty. Exploratory design of research is used in order to identify the parameters of the research topic and gather background data. In order to pinpoint frequencies, trends, and classifications, descriptive research is used.

This study provides conclusive information through the conducting of an online survey to determine Malaysian consumer behavior towards green cosmetics and how it affects their notion of loyalty after COVID 19 outbreak. The research investigates the problem of this study utilizing both a quantitative method and a deductive approach. A quantitative strategy was adapted based on the type of data needed for the research. The purpose of adopting quantitative approach was the foundation of quantitative research is the adoption of a theory of variables based on numerical measurements. As a result, data collection yields standardized, quantifiable data that can be examined using statistical methods. In order to determine whether the theory's prediction generalizations are accurate, an analysis that uses diagrams and statistics can be performed. (Saunders, Lewis, & Thornhill 2009; Creswell 1994). This empirical work examines the hypothesized association of variables.

3.2.2. Questionnaire: As per the above discussed variables, a questionnaire is prepared. Based on the results of the prior studies, the survey questions were administered. Adapted from the previous literature, this questionnaire has been designed for a survey of females living in Malaysia who had purchased cosmetics within in last 2 years i.e.

after the outbreak of COVID 19. The questionnaire is translated into Malay for the understanding of locals if they want to opt for the Malay version to participate in the study.

3.2.3. Phases of study: This study is divided into two phases. Pilot study and actual data collection.

3.2.4. Pilot study data collection: For the pilot study, the researcher has distributed the questionnaire on various social media platforms like Facebook and Instagram to reach the target population. The participants are politely asked to participate in the survey and ensured that the information they are providing would be kept confidential, and the results of this study would be used for academic purposes only. The data collection for pilot study presented the preliminary finding of the study.

3.2.5. Actual data collection: After the pilot study, the actual data collection has been conducted with the same research design on the sample size of 240-300 respondents.

3.2.6. Sampling Technique: Purposive sampling technique is utilized for this study. The researcher selected the sample to reply to use this sampling technique at her own choice. Here, the researcher's judgement and understanding of the context determine every step of the sample procedure. The researcher was able to eliminate responses that were irrelevant or out of place in the context of this research because to the purposive sampling. Additionally, it assisted the researcher in selecting variables or units that could yield insightful results. With regards to the research sample, all participants in the study are doing it voluntarily.

3.2.7. Sample size: the sample size for the actual study is 240-300 respondents while for the pilot study, 10% of the actual sample size has been targeted.

3.2.8. Mode of study: Since the mode of this study is online, the questionnaire is converted into an online survey using Qualtrics for data collection. Qualtrics was implied because it provides:

- Detailed and effective surveys
- Various channels of communication
- Managed respondents easily
- Safely processing data
- Pertinent data

- Automated and simple reports

3.2.9. Informed consent and recruitment material: This also includes the consent form and recruitment message for the informed consent of the participants.

3.3 Research approach

A positivist perspective has been used to answer research questions because of the characteristics of the aims and gaps throughout the literature study that served as the basis for the research. A more thorough approach is required to improve our knowledge of the "green" phenomenon from a methodological standpoint due to patterns and gaps in the research on green branding. In order to better understand how green consumers behave, while buying cosmetic products in Malaysia during pandemic periods, this research is conducted using a quantitative analysis. Given that it is a quantitative approach, the questionnaire has examined demographic information and respondents' initial reactions to green cosmetic products. For each item of the questionnaire, responses are collected on a 5-point Likert scale, where 1 shows 'strongly disagree' and 5 indicates 'strongly agree' (Hair, Ortinau, and Harrison 2010). By examining the consumer behavior toward green cosmetics after the pandemic in greater detail, the findings of this study is contrasted and compared with those of earlier research to significantly enrich the literature.

Descriptive study

A descriptive study is used to provide a detailed profile of individuals or a phenomenon. The data gathering technique and data analysis procedure, respectively, generate and employ numerical data as a result of this (Saunders, Lewis, and Thornhill 2003). Descriptive analysis is used because it is the type of data analysis that aids in accurately describing, displaying, or summarizing data points that patterns may appear that satisfy all of the data's requirements (Saunders, Lewis, and Thornhill 2003). The transformation of unstructured data into a format that is simple to comprehend and interpret, i.e., the rearranging, sorting, and manipulation of data to produce useful insight about the acquired data (Saunders, Lewis, and Thornhill 2003). It is among the most crucial processes in the examination of statistical data (Saunders, Lewis, and Thornhill 2003). It provides the researcher with an analysis of the distributions of data, aids in the detection of errors and abnormalities, and allows to spot patterns between variables, preparing for future statistical analysis (Saunders, Lewis, and Thornhill 2003). This study is descriptive in nature since it aims to analysis consumer purchasing behavior in Malaysia following the COVID 19 outbreak, as well as

to assess the relative relevance of the factors that impact consumer loyalty to green cosmetic brands in Malaysia.

Measures of frequency

Understanding how frequently a specific event or response seems likely to occur is crucial for descriptive analysis. The main goal of frequency measurements is to create something similar to a count or a percentage. In order to depict the respondents' personal information variables in this study, frequency and percentage statistics are employed.

3.4: Population and unit of analysis

"Green consumer" is the study's unit of analysis. Young female consumers in Malaysia, of 18-45 years, who are key contributors to the Malaysian cosmetics industry and are most likely to buy green cosmetics, are the study's target group (Boon, Fern, and Chee 2020). Malaysia's population in 2021 is estimated at 32.7 million with an annual growth rate of 0.2 per cent (Department of Statistics Malaysia, 2022). The growth rate of Citizens remained stable at 1.0 per cent with population increased from 29.7 million in 2020 to 30.0 million in 2021 out of which female population is 15.9 million respectively (Department of Statistics Malaysia, 2022). While the overall percentage of 15-64 years (working age) is estimated at 69.8 per cent in 2021, 7.9 million is between the age group of 18-45 which is the target group of this study and account for 42.5 percent of the overall population (Department of Statistics Malaysia, 2022). Students, professionals, and members of the general public has been selected based on gender, age, income, spending, and geographic region. Using the Yamane formula, the researcher has distributed the questionnaire based on the fraction of the target population (Adam, 2020).

3.5: Target respondents

According to a recent poll, these females have recorded their responses based on their demographics, age, education level up to postgraduate, and frequency of green cosmetic product purchases (Boon, Fern, and Chee 2020). To distinguish the females of each part of Malaysia (State-wise), a question to indicate location has been included in the demographic section of the questionnaire. It has become easier to determine the percentage of Malaysian women who buy green cosmetics in the past 2 years. These consumers are referred to as "green consumers".

3.6: Research instrument

This study deploys quantitative research methods of research. The quantitative data collection instrument employed is a "questionnaire" and this survey is performed online. The questionnaire

has various sections measuring the objectives of this study as aforementioned: Green Brand Knowledge, Green Brand Trust and Green Brand Attachment and how they perceive green cosmetics after the outbreak of COVID 19, i.e., consumer perceptions as well as the factors that influence their loyalty decisions. There is also a section of the questionnaire which collects demographic data such as age, education level, and location, profession, as well as the frequency of purchasing green cosmetics, in order to help with further classification of results. The demographic characteristics and independent and dependent variable measurement sections of the questionnaires were separated into sub-sections. The independent variables in this study are Green Brand Knowledge, Green Brand Trust, and Green Brand Attachment, whereas Consumer Perceptions is the mediating variable while dependent variable is Consumer Loyalty. The measuring items for the variables are based on subjective judgments using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). It takes 15 - 20 minutes for each participant to answer all the questions.

Measurements of the construct

This is a descriptive study based mainly on the primary data collected through a scientifically developed questionnaire. Each variable was quantified on the parameters. Consumer demographic information was also included in the questionnaire. All the items have been adapted from the previous literature however, modified according to the need of this study. This study referred to the previous studies to design questionnaire items which are elaborated as follow:

Operationalization of variables

In order to measure the Green Brand Knowledge, the scale was adopted from the research of (Yang and Wang, 2014). For measuring the green brand trust the scale was adopted from (Chen & Chang 2012) and for green brand attachment as well as demographics, the researcher adapted the scale of (Zhao et al., 2021). For measuring consumer perception, the scale was adapted from (Bhatia et al., 2013) and for consumer loyalty, the scale was adapted from (Koller et al., 2011). The items in the questionnaire have been measured by a five-point Likert scale ranging from 1 to 5, representing “strongly disagree” to “strongly agree”.

Table of measurement items

Table 1 demonstrates the table of measurement items as follow:

Variable	Scale of measurement	Adapted from
Green brand knowledge	<i>I have heard of the green cosmetic brands</i>	(Yang and Wang, 2014)
	<i>I am aware of environmental related information about green cosmetic brands after COVID 19 outbreak in Malaysia</i>	
	<i>Green cosmetic brands come to mind when thinking about environmentally friendly cosmetics after COVID 19 outbreak in Malaysia</i>	
	<i>Green cosmetic brands communicate frequently with me</i>	
	<i>I know that green cosmetic brands have a good reputation after COVID 19 outbreak in Malaysia</i>	
	<i>I am aware that green cosmetics brands are beneficial to me after COVID 19 outbreak in Malaysia</i>	
Green brand trust	<i>After COVID 19 outbreak in Malaysia, I feel that the green cosmetic brands' environmental reputation is reliable</i>	(Chen & Chang 2012)
	<i>After COVID 19 outbreak in Malaysia, I feel that the environmental performance of green cosmetic brands is dependable</i>	
	<i>After COVID 19 outbreak in Malaysia, I feel that the green cosmetic brands' environmental claims are trustworthy</i>	
	<i>After COVID 19 outbreak in Malaysia, green cosmetic brands meet my expectations</i>	
	<i>After COVID 19 outbreak in Malaysia, green cosmetic brands keep promises for environmental protection</i>	
Green brand attachment	<i>After COVID 19 outbreak in Malaysia, eco-friendliness of green cosmetic brands makes me feel strongly passionate towards them</i>	(Zhao et al. 2021)

	<i>After COVID 19 outbreak in Malaysia, environmental concerns of green cosmetic brands make me feel strongly passionate towards them</i>	
	<i>After COVID 19 outbreak in Malaysia, I desire green cosmetic brands due to their environmental performance</i>	
	<i>After COVID 19 outbreak in Malaysia, extraordinary environmental features of green cosmetic brands make me willing to pay for these brands</i>	
	<i>After COVID 19 outbreak in Malaysia, I have strong association with green cosmetic brands as they are less harmful to natural environment.</i>	
	<i>After COVID 19 outbreak in Malaysia, I have firm affection for green cosmetic brands</i>	
	<i>After COVID 19 outbreak in Malaysia, I am emotionally bonded with green cosmetic brands</i>	
	<i>After COVID 19 outbreak in Malaysia, green cosmetic brands demonstrate my environmental consciousness performance.</i>	
	<i>After COVID 19 outbreak in Malaysia, I am passionate for green cosmetic brands' ecological functionality.</i>	
	<i>After COVID 19 outbreak in Malaysia, I will continue my relationship with green cosmetic brands because of their efficient</i>	
	<i>After COVID 19 outbreak in Malaysia, I feel delighted by achieving environmental performance of green cosmetic brands</i>	
	<i>After COVID 19 outbreak in Malaysia, I will be distressed if production of green cosmetic brands stopped</i>	
Consumer perception	<i>I think that the green cosmetic brands I use do not harm the environment after COVID 19 outbreak in Malaysia</i>	(Bhatia et al, 2013)

	<i>I consider that wasting the resources of our planet after COVID 19 outbreak could be harmful for us after COVID 19 outbreak in Malaysia</i>	
	<i>I consider myself and environmentally responsible individual after COVID 19 outbreak in Malaysia</i>	
	<i>I consider the potential impact of my actions on environment when making my purchase decisions of green cosmetics after COVID 19 outbreak in Malaysia</i>	
	<i>I believe that it would be beneficial for me to adopt environmentally friendly cosmetics purchase habits after COVID 19 outbreak in Malaysia</i>	
	<i>I believe that my purchase habits are affected by my concern for the environment after COVID 19 outbreak in Malaysia</i>	
Loyalty of green consumer	<i>In the future, I will buy green cosmetics again</i>	(Koller et al, 2011).
	<i>I consider green cosmetics as my first choice after COVID 19 outbreak in Malaysia</i>	
	<i>I will recommend green cosmetics after COVID 19 outbreak in Malaysia</i>	
	<i>I encourage friends and relatives to buy green cosmetics after COVID 19 outbreak in Malaysia</i>	
	<i>When another brand of same product category is on sale, I will generally purchase it rather than this green brand</i>	
	<i>After COVID 19 outbreak in Malaysia, even when another cosmetic brand is on sale, I will still purchase green cosmetic brands</i>	
	<i>I prefer green cosmetic brands over the other brands of the same category after COVID 19 outbreak in Malaysia</i>	
	<i>I am highly satisfied by the performance of green cosmetic brands</i>	

	<i>I understand the features of green cosmetic brands well enough to evaluate it against conventional cosmetic brands after COVID 19 outbreak in Malaysia</i>	
	<i>Green cosmetic brands interest me after COVID 19 outbreak in Malaysia</i>	
	<i>I consider myself to be highly loyal to green cosmetic brands after COVID 19 outbreak in Malaysia</i>	

Table 1: Table of measurement items

Expert Judgement

There were several steps were taken into consideration for the expert judgement of the questionnaire. The researcher begun by identifying the experts who have expertise in the Malaysian cosmetics industry, sustainability, green marketing, and/or consumer behavior. The researcher picked Dr. Kashif Mahmood and reached out to him to the expert judgement by explaining him the research study. She then asked him if he would be willing to share their insights and opinions on the topic to which he agreed. The researcher shared the questionnaire with the expert and requested his opinion via email. After the review, the researcher sent a thank you email to the expert and shared the insights of expert with her supervisors for their feedback. Finally, the researcher incorporated the expert judgment into her research to validate the findings, provide context for your research, and develop recommendations for future research.

3.7: Sampling

3.7.1: Sampling technique

To choose green consumers for this study, researchers used a purposive sample technique (Bryman, 2012; Miles and Huberman, 1994). It's a method of carefully selecting examples that can provide crucial information (Bryman, 2012). "The logic and strength of intentional sampling resides in selecting information-rich examples, from whom one may learn a great deal about issues crucial to the inquiry's objective," according to Patton (2002: 230). Purposive sampling was utilized to choose information-rich sample cases/participants who might provide relevant information on the research topics stated in this study in a planned manner (Bryman, 2012). This

sampling method have been used to collect information from consumers who have purchased green cosmetics in the last two years (Acharya et al. 2013). This is demonstrated in the present sample of 240-300 green female consumers, who were chosen for their usefulness in terms of providing information on how their loyalty changed following the outbreak of the pandemic, based on their views that influenced it. Furthermore, for a variety of reasons, purposeful sampling was used. The first goal of deliberate sampling was to discover instances with a lot of data that could reflect their experiences for we could learn more about the phenomenon (Adam et al. 2020). According to Hofer and Bygrave (1992: 95), "the distinctive aspects of the entrepreneurial process suggest that deliberate sampling should be among the more regularly deployed sampling procedures in the sector. Purposive sampling allows the researchers to carefully select participants based on specific criteria, enhancing the relevance and credibility of the findings (Smith, 2018). Purposive sampling is adopted for this study because the researcher have a specific target population (i.e., female green consumers) in mind, and aim to gather in-depth insights from participants who possess relevant characteristics (Johnson, 2014). Hence, purposive sampling allows for theoretical application of the findings. (Acharya et al. 2013)

3.7.2: Sample size

According to Yamane formula to calculate the sample size, the value of n is 239.6. Hence, the researcher collects the data using closed ended questionnaire from 240-300 females based in East & West Malaysia who have experience with purchasing a green cosmetic brand in the last 2 year since the COVID 19 erupted on a mass level (Adam et al. 2020). The bracket of 240-300 is given to keep the data collection flexible at the same time, get a valid and reliable set of responses to draw the findings.

3.7.3: Recruitment process

Researcher dispersed the questionnaire on different social media platforms to get in touch with the participants. Researcher has used three platforms to disseminate the survey form link. (see appendix 3-recruitment process). Also, Facebook and Instagram pages which have Malaysian followers were contacted to get in touch with the potential participants of the study. The researcher, upon identification of the participant, contacted her and ask her if she is interested to participate. Once she agrees, the researcher explained her the purpose of study and provided her the consent form and questionnaire to record her response. This process was done before pilot study as well as actual data collection.

3.8: Data collection procedure

3.8.1: Pilot study

According to Kitching et al. (2017), a pilot study is conducted to test the feasibility of a research study by evaluating the methodology and design. The pilot study was chosen for this research because it helps in identifying any potential issues and challenges that may arise during the actual study, enabling researchers to make necessary adjustments to the methodology and design before conducting the actual study. Moreover, the pilot study provides an opportunity for the researchers to test the data collection instruments and procedures to ensure they are reliable and valid. Through the pilot study, researchers can also assess the suitability of the sample size and recruitment procedures for the actual study (Bowen, 2018). By conducting a pilot study, the researcher ensures that this research is feasible and that she is well-prepared for the actual study.

A pilot study has been undertaken for questionnaire validation in order to assure the readability and understanding of the questions in this research. The major goals of this survey have been to gather conceptual inputs, correct any typing or language issues, and establish data gathering standards. The responders rated the questionnaire on a five-point Likert scale (where 1 represents "strongly disagree" and 5 represents "strongly agree"). Amendments have been made as needed following the pilot research. The questionnaire was piloted with 10% of the total sample size (i.e., 20 respondents), and all the necessary changes to the question order were made. This is because, it ensures feasibility, target effect size and potential efficacy of the actual study. Although typical power calculations are incorrect for pilot studies (because the primary goal of a pilot study is not to determine whether one way is superior to another), a sample size rationale is critical. While there are numerous criteria for the size of the pilot survey, ranging between 12 to 35 people per arm none of them take into account the size of the final trial. However, optimally, 10% of the total population is another rule of thumb used for a pilot study. (Bell, Whitehead and Julious, 2018)

In order to improve the clarity of the questionnaire for the final study, the unimportant and irrelevant questions were deleted. The language of the questions was also simplified. To check the reliability, the instrument has been tested through Cronbach Alpha. For satisfactory results, the researcher achieved this value greater than 0.70 for all the constructs. The updated questionnaire with the amendments for actual study is available in appendix 2(G).

3.8.2: Actual data collection

This study takes a quantitative research approach and collect data from respondents via a questionnaire survey. All of the scales have been taken from current literature. Qualtrics is a survey tool that has been used to distribute online questionnaires since it makes it easier to examine consumer insights in one location. The use of an online survey provides the ability to collect a huge amount of data in a relatively short length of time. In fact, using an online survey can help to reduce data gathering errors. To meet the study's goals, 100 percent of the questionnaires have been sent via a shareable web link to a sample population of 240-300 people who use social media platforms including Facebook, Instagram, and WhatsApp and through researchers' personal contacts. Only the relevant and specific groups related to Malaysian consumer and cosmetics have been targeted to reach the respondents.

3.9: Ethical considerations of the study

Ethical considerations are seen as an essential component of the research methodology (Lincoln, Lynham, and Guba 2011). It is my basic concern as a researcher to be mindful of the ethical concerns for my participants (Broesch et al. 2020). The important ethical considerations pertinent to the current investigation are discussed in this section.

3.9.1: Informed consent

Participants gave informed consent after being briefed on all components of the study before data collection started; (Rebucci, Hartley, and Jiménez 2022) argued that volunteers can only give consent if they have been given complete knowledge about the investigation (Broesch et al. 2020). From the first contact, all female volunteers in the current study were informed about aspects of the research (Broesch et al. 2020). The survey also included consent instructions at the beginning, and only once the participant has given her consent she is able to proceed towards the next screen to complete the questionnaire (Rebucci, Hartley, and Jiménez 2022). The participant information form included detailed information about the research's goals and objectives, research processes, participant roles and involvement, and my contact information (Broesch et al. 2020). Participants are expected to contact the researcher at any time if they have any questions or concerns about the study.

3.9.2: Anonymity and confidentiality

One of the potential risk of this study is anonymity and confidentiality. The protection of participants' anonymity and confidentiality has been a top priority in this study. Therefore, this

research undertakes mitigating measures to prevent the breach of confidentiality throughout. Female participants can rest certain that their personally identifiable information have not been shared with anybody else and can only be seen by the researcher. They are told that the data would only be reviewed with my supervising team depending upon the nature of this MPhil project. Furthermore, the information has been incorporated in my research and potentially in some of the study's publications. To maintain confidentiality, all consumers have been provided simply numbers (Broesch et al. 2020).

3.9.3: Consent form

A consent form has attached at the beginning of each questionnaire and the participant have to accept the consent form by ticking the consent blurb/check box to continue with the participation in the study. This form provided the researcher with a formal consent given by the participants by agreeing to the terms and conditions of the study and he/she is fully aware of the purpose of the study. For both pilot study and actual study, the same consent process has been used. The researcher explained the study to the potential participants using the information and consent form, providing all pertinent information (purpose, procedures, risks, benefits, etc.), and allowed the potential participants ample opportunity to ask questions by providing her email ID in the consent form. Participants are provided with sufficient time to consider whether or not to participate in the research as there is no time limit associated with responding to the questions. The participants could only continue with the study after they agree/accept the terms and conditions written in the consent form. Thoroughly, simple English and Malay is used in the consent form and questionnaire and the definition of each variable is given at the start of each section for the respondents could fully understand the context of the study.

3.10: Data Analysis

The researcher employed Smart PLS 3.00 to analyze the data. This is because there is no stringent requirement for normal data, and a large sample condition is not necessary. The research model was analyzed utilizing the partial least squares (PLS) analytical technique and Smart PLS 3.0 software (Ringle et al. 2015). The researcher assessed the measurement model's dependability of the measurements based on the two-stage analytical processes as Anderson and Gerbing (1988) recommended, then looked at the structural model (Hair et al, 2014; Ramayah et al. 2013) The

relevant path coefficients and the outer loadings were put to the test using the bootstrapping method.

3.10.1: SEM-PLS

To estimate the model of the presented hypotheses, the structural equation modelling (SEM) method known as partial least squares (PLS) was used (Hulland et al., 1996). PLS-SEM is a suitable method for this investigation in comparison to other methods for four reasons.

First, this study hypothesized the causal relationship among both dependent variables and independent variables. For this, PLS facilitates the simultaneous estimation of numerous causal links between one or perhaps more independent variables and one or more dependent variables (Kostopoulos, 2011, pp. 1339). Second, the study's sample size is very little; the total data collected was only 101 remarks. PLS has an advantage since it has more statistical power (Henseler, 2010), which allows for small sample sizes (Ringle et al., 2012). Thirdly, non-probability methods were used to gather the study's data. PLS is suitable for data that is not typically distributed since it has a moderate distribution assumption and is non-parametric (Ringle et al., 2012).

In the context of this research, Structural Equation Modeling (SEM) and Partial Least Squares (PLS) were likely chosen as methods for testing hypothesized relationships among variables (Smith 2022, 150-170). This is because SEM PLS is suitable for testing relationships among variables when there may not be well-established theories or hypotheses to guide the analysis. Additionally, SEM PLS is known to be able to handle small sample sizes, which is appropriate for this type of research (Smith 2022, 150-170).

3.10.2: Validity and reliability

All constructs evaluated for the samples' reliability, convergent validity, and discriminant validity were evaluated to validate the measurement model. The researcher calculated composite reliability (CR) values to assess scale dependability. The suggested value for both is 0.70. According to Fornell and Larcker's convergent validity approach, a variable's convergent validity is high if all constructs' average variance extracted (AVE) is greater than 0.5 and all item loadings are significant and higher than 0.7. The findings show sufficient convergent validity. The researcher assessed discriminant validity using two criteria put forward by Fornell and Larcker:

square roots of AVEs for each construct should be greater than correlations among other constructs in the model, and correlations between constructs should be less than 0.85.

3.11. Pilot study (preliminary findings)

Smart PLS has been used for the interpretation of the results. Since this is the pilot study, the preliminary data was collected from 30 respondents using Qualtrics to check out the validity of the questionnaire. The pilot study is conducted to help determine the sample size and to evaluate all other components of the actual study for the number of resources are utilized wisely. This pilot study might help decide whether our research plan is feasible before to get started for the actual study (Przemysław Dorożyński 2021). This is a small-scale, preparatory “rehearsal” where the strategies are being tested which are to be applied to apply to the research topic. The outcomes serve as a guide for a large-scale investigation method (Ooge and Verbert 2021). For this study, the pilot study is used to:

- Test the methodology and design of the research.
- Make sure that the study is feasible (Edson Muresherwa 2021).

The data was then downloaded from Qualtrics and imported into the Smart PLS. Several tests were applied to the data to check its validity of the data (M. A. Agus Purwanto 2021).

Figure 3.1 demonstrates the Research model of the pilot study

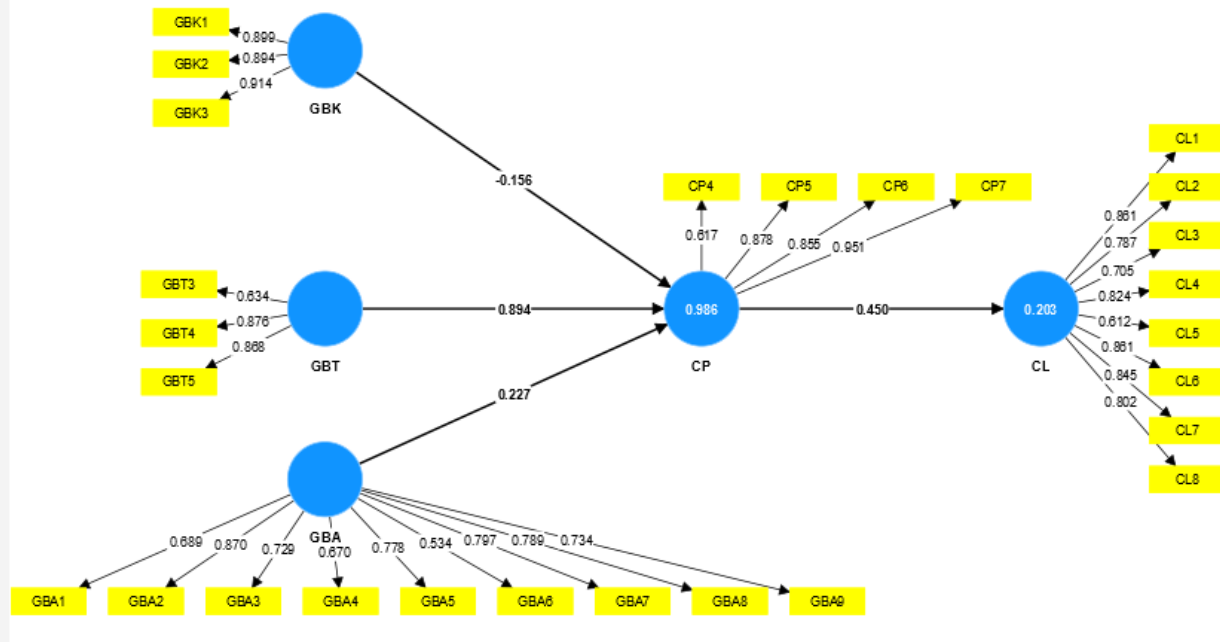


Figure 3.1: Research Model – Pilot Study

According to the model, there are five variables i.e. Green Brand Knowledge (GBK), Green Brand Trust (GBT), Green Brand Attachment (GBA) which are the exogenous variable, Consumer Perception (CP) is a mediating variable, and Consumer Loyalty (CL) is an endogenous variable (Sowinski 2021). CP is, at the same time, is an exogenous variable because this study is assessing the relationship between CP and CL. GBK, GBT, and GBA have a direct link with the CP, and CP has a direct link with CL. The first three variables impact the CP, and their overall impact have been on the CL. According to the research model, CP is mediating the relationship between these exogenous variables and endogenous variables. In this model, consumer perception (CP) is used as mediation and this variable is acting as exogenous with DV consumer loyalty (Yen-Chun Chou 2022). But at the same time, this mediating variable is acting endogenous for all IVs. At one time I checked the effect by using this exogenous, and next time I used this variable as endogenous to check the effect on IVs.

3.11.1. Descriptive Statistics

To begin with data analysis, the first step was finding out the measures of dispersion and its central tendency. Finding out the mean variance and standard deviation of the data based on the responses of respondents gathered through questionnaires.

Variable	Category	Frequency	Percentage (%)
Gender	Male	0	0
	Female	30	100
Occupation	Student	8	27
	Doctor	5	17
	Engineer	4	13
	Teacher/Trainer	9	30
	Business Prof.	2	7
	Others	2	7
	Salary Range	1000 - 2000	9
	2000 - 3000	5	17
	3000 - 4000	5	17
	4000 - 5000	4	13
	5000 or Above	7	23
Location	Johor	2	7
	Sarawak	1	3
	Sabah	2	7
	Kuala Lumpur	5	17

Variable	Category	Frequency	Percentage (%)
	Kedah	2	7
	Penang	0	0
	Labuan	3	10
	Selangor	2	7
	Perak	2	7
	Malacca	4	13
	Negeri Sembilan	2	7
	Penang	3	10
	Perlis	2	7
Duration	Every month	8	27
	Quarterly	6	20
	After 6 months	5	17
	After 1 year	3	10
	Any other time	8	27

Summary of Descriptive Statistics

The table provides a comprehensive overview of key demographic and behavioral characteristics of the respondents participating in the study. The data is organized into several categories, each representing a specific variable of interest.

Gender:

All respondents identified as female, with no male participants in the study.

Occupation:

The respondents' occupations were diverse, with the majority being students (27%), followed by doctors (17%), engineers (13%), teacher/trainers (30%), business professionals (7%), and others (7%).

Salary Range:

The participants' salary distribution exhibited variation across different ranges. The largest proportion (30%) reported earning between 1000 and 2000, while 17% fell into the 2000 - 3000 and 3000 - 4000 categories. A smaller percentage reported salaries of 4000 - 5000 (13%), and 23% indicated earnings of 5000 or above.

Location:

The respondents' locations varied, with Kuala Lumpur having the highest representation (17%). Other regions included Malacca (13%), Labuan (10%), and Johor, Sabah, Kedah, Selangor, Perak, Negeri Sembilan, Penang, and Perlis each comprising 7% of the sample.

Duration:

Respondents reported different frequencies of cosmetic product purchases. The largest group (27%) indicated making purchases every month, while 20% reported buying products quarterly. After 6 months and after 1 year purchase durations each accounted for 17%, and 10% of respondents mentioned making purchases at any other time.

[3.12: Chapter Summary](#)

Following the COVID-19 outbreak, this chapter carefully lays out the research strategy and methods for a study looking into Malaysian consumer behavior toward green cosmetics and its effect on loyalty. The study uses a questionnaire-based methodology that was adapted from earlier research and distributed online to Malaysian women who bought cosmetics during the two years following the COVID-19 outbreak. A pilot study to validate the questionnaire is conducted before the actual data collection, which is separated into two parts and has a target sample size of 240–300 participants. Since Qualtrics is flexible and secure, it is used for data gathering. Purposive sampling is used to ensure the selection of pertinent participants. SEM-PLS is used for data analysis while ethical issues, such as informed consent as well as confidentiality, are addressed. The pilot study's preliminary findings offer information about the respondents' demographics,

occupation, wage range, location, and frequency of cosmetic purchases, laying the groundwork for the succeeding phases of data analysis and interpretation.

Chapter 4 – Results and Analysis

4.0. Overview of this chapter

This chapter provides a detail about the analysis of the collected data for this study. All the results of pilot study as well as the actual study are discussed in this chapter. The chapter starts with the results and interpretations of descriptive statistics of the study. It further follows the results and interpretations of the pilot study. Since the researcher has employed Smart PLS for this research, all the data has been processed using it.

4.1. Data Analysis

In this study, Smart PLS 3.0 is being used for descriptive statistical analysis as well as structural equation modelling. The quantitative data from the survey has been examined. Structural Equation Modelling-Partial Least Square (SEM PLS) was used to test the model's hypotheses, and the path model was used to assess the results. Data were assessed in two steps, utilizing the bootstrapping technique to first analyze the measurement model to determine the validity and reliability of the data. The study is based on survey demographic data (descriptive statistics) such as age, income level, occupation, and descriptive statistics such as percentages and averages have been used extensively. The multiple ordinal values for the data obtained with both the Likert scale is also be assigned scores, allowing descriptive data analysis and/or summary to be based on intervals. The many data categories have been reduced to nominal items ranging from strongly agree to strongly disagree, enabling Chi-square tests to be performed to evaluate the correlations between both the dependent and independent variables described in the proposed framework.

4.2. Assessment of Measurement Model

Outer loadings

Table 7 demonstrates Outer Loadings of the pilot study data

	CL	CP	GBA	GBK	GBT
--	----	----	-----	-----	-----

CL1	0.861		
CL2	0.787		
CL3	0.705		
CL4	0.824		
CL5	0.612		
CL6	0.861		
CL7	0.845		
CL8	0.802		
CP4		0.617	
CP5		0.878	
CP6		0.855	
CP7		0.951	
GBA1			0.689
GBA2			0.87
GBA3			0.729
GBA4			0.67
GBA5			0.778
GBA6			0.534
GBA7			0.797
GBA8			0.789
GBA9			0.734

GBK1	0.899	
GBK2	0.894	
GBK3	0.914	
GBT3		0.634
GBT4		0.876
GBT5		0.868

Table 7: Outer Loadings

In reflective measurement models, outer loadings represent the estimated relationships. They determine the absolute contribution of an item to the construct it is assigned to. From 0 to 1 are the values (Zhafirah, Qurtubi and Maghfiroh 2022). If the deletion of the indicator with outer loadings between 0.40 and 0.70 results in a rise in composite reliability and average extracted variance, the value of the outer loading should be greater than 0.70.

These are the outer loading results of the data. The estimated connections in reflective measurement models are known as outer loadings. They establish an item's total contribution to the construct to which they are assigned. The range of values is 0 to 1. Suppose the removal of the indicator with outer loadings between 0.40 and 0.70, leads to an improvement in the reliability coefficient and average variance extracted (Silvy Adhelia 2022). In that case, the value of the outer loading should be more than 0.70, and it should be considered for deletion (Silvy Adhelia 2022). According to the traditional value of outer loading, all indicators have more than 0.7 and less than 1, which means all the indicator values of the outer loading are impeccable. These indicators have been used for the actual research too (Viral Bhatt 2021).

Discriminant Validity

Table 8 demonstrates the Discriminant Validity – Fornell Larcker Criterion of the data.

Discriminant Validity - Fornell-Larcker Criterion

	CL	CP	GBA	GBK	GBT
CL	0.791				
CP	0.45	0.835			
GBA	0.946	0.698	0.738		
GBK	0.927	0.371	0.857	0.902	
GBT	0.447	0.99	0.676	0.371	0.8

Table 8: Discriminant Validity

To make sure that a reflective concept has the strongest correlations with its indicators, discriminant validity testing must be conducted. One of the most widely used methods for evaluating the discriminant accuracy of measurement models is the Fornell-Larcker criterion (Rasoolimanesh 2022). This criterion states that the correlation between a construct and any other construct should be bigger than the square root of the average variance retrieved by the construct (Asyraf Afthanorhan 2020).

Compared to any other construct in the PLS path model, the discriminant validity evaluation seeks to ensure that a reflective construct has the most significant connections with its indicators. When evaluating new tests, they emphasized the significance of employing simultaneously discriminant and convergent validation procedures (Mamot, et al. 2021). A conception test is not highly connected with other tests intended to assess theoretically various concepts, according to a satisfactory examination of discriminant validity (Hilkenmeier 2020). The constructs' discriminant validity has been confirmed using the cross-loadings and the Fornell-Larcker criterion in the figure. Each construct's AVE has a higher square root than the correlation with other constructs. On its corresponding construct, each item loads most quickly.

Discriminant Validity - Cross Loadings

Table 9 demonstrates the cross loadings of data.

	CL	CP	GBA	GBK	GBT
CL1	0.861	0.514	0.87	0.732	0.497
CL2	0.787	0.363	0.729	0.697	0.382
CL3	0.705	0.248	0.67	0.502	0.213
CL4	0.824	0.395	0.778	0.674	0.403
CL5	0.612	0.11	0.534	0.494	0.101
CL6	0.861	0.369	0.797	0.899	0.378
CL7	0.845	0.289	0.789	0.894	0.259
CL8	0.802	0.335	0.734	0.914	0.353
CP4	0.389	0.617	0.491	0.411	0.634
CP5	0.295	0.878	0.535	0.202	0.876
CP6	0.41	0.855	0.601	0.322	0.868
CP7	0.417	0.951	0.689	0.33	0.898
GBA1	0.417	0.951	0.689	0.33	0.898
GBA2	0.861	0.514	0.87	0.732	0.497
GBA3	0.787	0.363	0.729	0.697	0.382
GBA4	0.705	0.248	0.67	0.502	0.213
GBA5	0.824	0.395	0.778	0.674	0.403
GBA6	0.612	0.11	0.534	0.494	0.101
GBA7	0.861	0.369	0.797	0.899	0.378
GBA8	0.845	0.289	0.789	0.894	0.259

GBA9	0.802	0.335	0.734	0.914	0.353
GBK1	0.861	0.369	0.797	0.899	0.378
GBK2	0.845	0.289	0.789	0.894	0.259
GBK3	0.802	0.335	0.734	0.914	0.353
GBT3	0.389	0.617	0.491	0.411	0.634
GBT4	0.295	0.878	0.535	0.202	0.876
GBT5	0.41	0.855	0.601	0.322	0.868

Table 9: Discriminant Validity – Cross loadings

The significant partial cross-loadings ($p < 0.05$) are also listed in the figure. More than 90% of them have any significance. This large proportion is not unexpected, given that correlations with absolute values as low as 0.11 (marginal) can have an impact. Cross-loading results are significant (Giulia Landi 2021).

4.2.1. Construct Reliability and Validity

Table 11 demonstrates the construct reliability and validity of the data.

Construct Reliability and Validity - Matrix

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
CL	0.915	0.947	0.93	0.626
CP	0.846	0.868	0.9	0.697
GB				
A	0.905	1.025	0.914	0.544

GB				
K	0.887	0.897	0.929	0.814
GB				
T	0.711	0.749	0.84	0.641

Table 11: Construct Reliability and Validity

An intricate idea called construct validity looks into how an item performs about other variables. In contrast, dependability examines how closely a group of items reflect the same underlying idea. Validity and reliability are crucial considerations when choosing a survey instrument (Sharifah Naziha Syed Kholed 2021). The degree to which an instrument produces the same results throughout numerous trials is referred to as its reliability. The degree to which an instrument measures what it was intended to measure is referred to as validity. Validity can be approached in research in three different ways: content validity, construct validity, and criterion-related validity (Wasit Wongtrakul 2021).

Concepts like validity and reliability are used to assess the caliber of research. They demonstrate how effectively a methodology, method, or test measure something. Validity is concerned with a measure's correctness, whereas reliability is concerned with consistency. Therefore, correlations between test results and criteria measurements influence both prediction and criterion construct validity. A value between -1 and +1 should be used for each correlation coefficient. Negative value is accepted only if we are assessing two-tailed. (Vaart 2021). Finally, averaging the correlation coefficients is necessary. High convergent validity is shown by a high correlation coefficient (near +1) (Yaacob 2021). The threshold for a convergent validity that is deemed acceptable is typically +0.70. In this test, all factors' values are more than 0.70 except the average variance, but if the average variance value is more than 0.50, it is also a reliable factor. According to the weights, all the elements and reliability in this research can continue with the same scenario (Rahman, et al. 2021).

4.2.5. Outer Loadings - Mean, STDEV, T Values, P Values

Table 12 demonstrates the Mean, STDEV, T Values, P Values of the data

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T (O/STDEV)	statistics P values
CL1 <-					
CL	0.861	0.84	0.126	6.816	0
CL2 <-					
CL	0.787	0.771	0.146	5.408	0
CL3 <-					
CL	0.705	0.64	0.207	3.406	0.001
CL4 <-					
CL	0.824	0.788	0.144	5.729	0
CL5 <-					
CL	0.612	0.568	0.195	3.142	0.002
CL6 <-					
CL	0.861	0.841	0.137	6.281	0
CL7 <-					
CL	0.845	0.797	0.149	5.67	0
CL8 <-					
CL	0.802	0.762	0.15	5.348	0
CP4 <- CP	0.617	0.602	0.149	4.146	0
CP5 <- CP	0.878	0.876	0.068	12.947	0
CP6 <- CP	0.855	0.852	0.084	10.233	0

CP7 <- CP	0.951	0.952	0.015	63.177	0
GBA1 <-					
GBA	0.689	0.741	0.089	7.698	0
GBA2 <-					
GBA	0.87	0.821	0.144	6.06	0
GBA3 <-					
GBA	0.729	0.687	0.159	4.582	0
GBA4 <-					
GBA	0.67	0.584	0.226	2.963	0.003
GBA5 <-					
GBA	0.778	0.713	0.185	4.211	0
GBA6 <-					
GBA	0.534	0.468	0.216	2.472	0.013
GBA7 <-					
GBA	0.797	0.747	0.167	4.784	0
GBA8 <-					
GBA	0.789	0.712	0.199	3.972	0
GBA9 <-					
GBA	0.734	0.663	0.202	3.627	0
GBK1 <-					
GBK	0.899	0.879	0.144	6.232	0
GBK2 <-					
GBK	0.894	0.849	0.178	5.024	0
GBK3 <-					
GBK	0.914	0.876	0.169	5.417	0

GBT3 <-					
GBT	0.634	0.616	0.152	4.161	0
GBT4 <-					
GBT	0.876	0.876	0.059	14.776	0
GBT5 <-					
GBT	0.868	0.866	0.072	12.04	0

Table 12: Outer loadings - Mean, STDEV, T Values, P Values

The range of values is 0 to 1. Suppose the removal of the indicator with outer loadings between 0.40 and 0.70 leads to increased composite reliability and average variance extracted. In that case, the value of the outer loading should be more than 0.70, and it should be considered for deletion (Isnain, et al. 2021). According to the outer loadings, it is acceptable if the value of $p = 0.000$. These outer loadings show the relationship between factors and variables. Their sample mean is more than 0.5, and this value is also suitable for establishing the relationship between factors, and T statistics shows the strength of the factor (Olivier NICOLAS 2020).

4.2.6. R –Square

Table 13 presents the R Square and adjusted R square values of the data

	R-square	R-square adjusted
CL	0.203	0.174
CP	0.986	0.984

Table 13: R square

The link is evaluated between the movements of a dependent variable and the movements of an independent variable using the R-squared formula. It won't tell whether the data and predictions

are skewed or if the model of choice is good or bad. For linear regression models, the goodness-of-fit metric R-squared is used (Mia Annida Amalia 2022). This statistic shows the proportion of the dependent variable's variance that the independent variables account for collectively. R-squared provides a straightforward 0–100% scale to quantify the strength of the association between your model and the dependent variable. If the recommended value of r square is equal to or greater than 0.10 then it is in the favor of the framework. In this framework, the value of r square is 0.20 and 0.98 and these are acceptable (Sinaga 2021).

4.2.7. Structural Model

The bootstrapping method was used to analyses the structural model. 250 bootstrap samples were used to measure the proposed relationships. The hypotheses can be accepted or rejected according to a variety of criteria, including the t-value, p-value, lower limit, and upper limit confidence intervals.

4.2.7. Structural Model

The bootstrapping method was used to analyses the structural model. 250 bootstrap samples were used to measure the proposed relationships. The hypotheses can be accepted or rejected according to a variety of criteria, including the t-value, p-value, lower limit, and upper limit confidence intervals.

Path Coefficient

Table 14 presents the Path Coefficient of the data

	Original sample (O)	Sample mean (M)	Standard (STDEV)	deviation T statistics (O/STDEV)	P values
CP -> CL	0.45	0.495	0.157	2.864	0.004
GBA -> CP	0.227	0.235	0.095	2.393	0.017
GBK -> CP	-0.156	-0.143	0.071	2.205	0.028

GBT	->	0.894	0.876	0.061	14.606	0
CP						

Table 14: Path Coefficient

Models that are more sophisticated (and realistic) than multiple regression can be analyzed using path analysis. To identify which model best fits the data, it can compare various models (M.S. Yahaya 2021). Path analysis can refute models that posit causal relationships between variables, but it is unable to establish causation. The direct impact of one variable supposed to be a factor on another variable supposed to be an effect is shown by a path coefficient. Because they are generated from correlations, path coefficients are standardized (Sadhana 2022). Two subscripts are used to represent path coefficients.

Mean, standard deviation, T-values, and P-values in the path coefficient were calculated from the data. GBK and CP have the values of (B = 0.894, t = 14.606, p = 0.000). This means a strong relationship exists between GBT and CP. GBK and CP have the values (B = -0.156, t = 2.205, p = 0.028), which means there is a conflict between these two factors, and their relationship is weak (K. Bhargava 2021). The connection between GBA and CP has the values (B = 0.227, t = 2.393, p = 0.017) means there is a conflict between GBA and CP but their relationship is not weak. The connection between CP and CL (B = 0.45, t = 2.864, and p = 0.004) means this relationship is supported by each other, and these two factors also support the hypotheses.

4.3. Partial Least Squares - Structural Equation Modelling

This sub-section aims at presenting the findings derived from data analysis and discussion in the context of actual study. The actual study was conducted after pilot study in the Malaysian consumer's context, by applying partial least square equational modeling. Smart PLS is used for the analysis of the measurement model and assessment model of the study. Smart PLS is applied to check the relationship between green brand elements and consumer loyalty for green cosmetic brands. There are three exogenous variables including Green Brand Knowledge, Green Brand Trust, and Green Brand Attachment, while Consumer Perception is the mediating variable. Consumer perception, in this study, is considered as the endogenous as well as exogenous variable however, consumer loyalty is the endogenous variable in the study. The following chapter is based

on the results and findings of the research with reference to the data collected for the sake of achievement of the objectives of the study through hypothesis testing.

4.3.1. Phases of the study

Before data analysis, the data was examined to identify any issues related to the data collection. This process involved an assessment of missing values, data normality, non-response bias, and common method bias. The first issue which was checked and resolved is “missing values in data” and “incomplete data”. This has been done because it is important not only to understand the concept of missing values in data but also to practically handle this issue properly. Failing to address this issue may lead to drawing erroneous statistical inferences about the data (Rahmayana 2021). The reason for non-responsive items is some stress, fatigue, or lack of comprehension associated with the respondent (Rahmayana 2021).

In this study, missing values in the data were checked using Microsoft Excel 365 as recommended by the previous research (Kurniawan 2021). It was observed that the number of missing values in the data were very low because the data was collected through an online survey form using Qualtrics. Qualtrics file was imported to excel, and all the missing values were eliminated (Suhada 2021). Also, it helped the researcher to manage the data collection process as per requirements.

Figure 4.3 presents the phases of the study

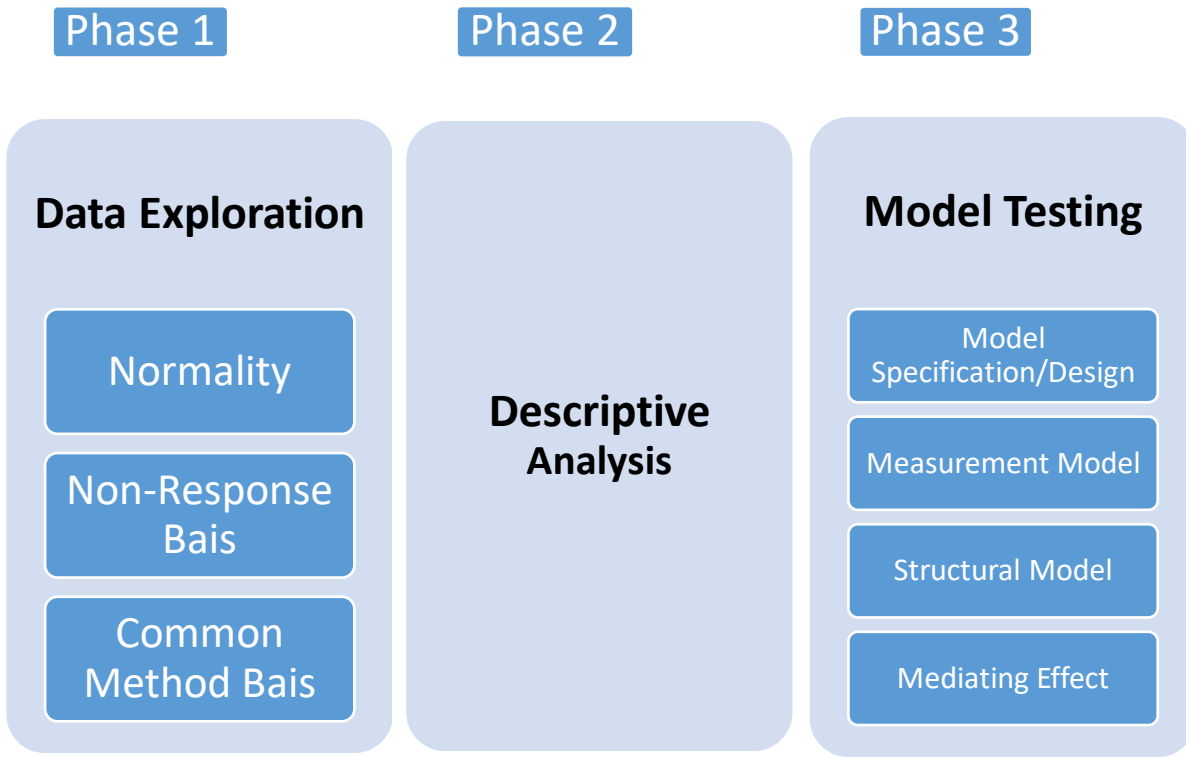


Figure 4.3: Phases of the study

Figure 4.4 presents the research model of the actual study

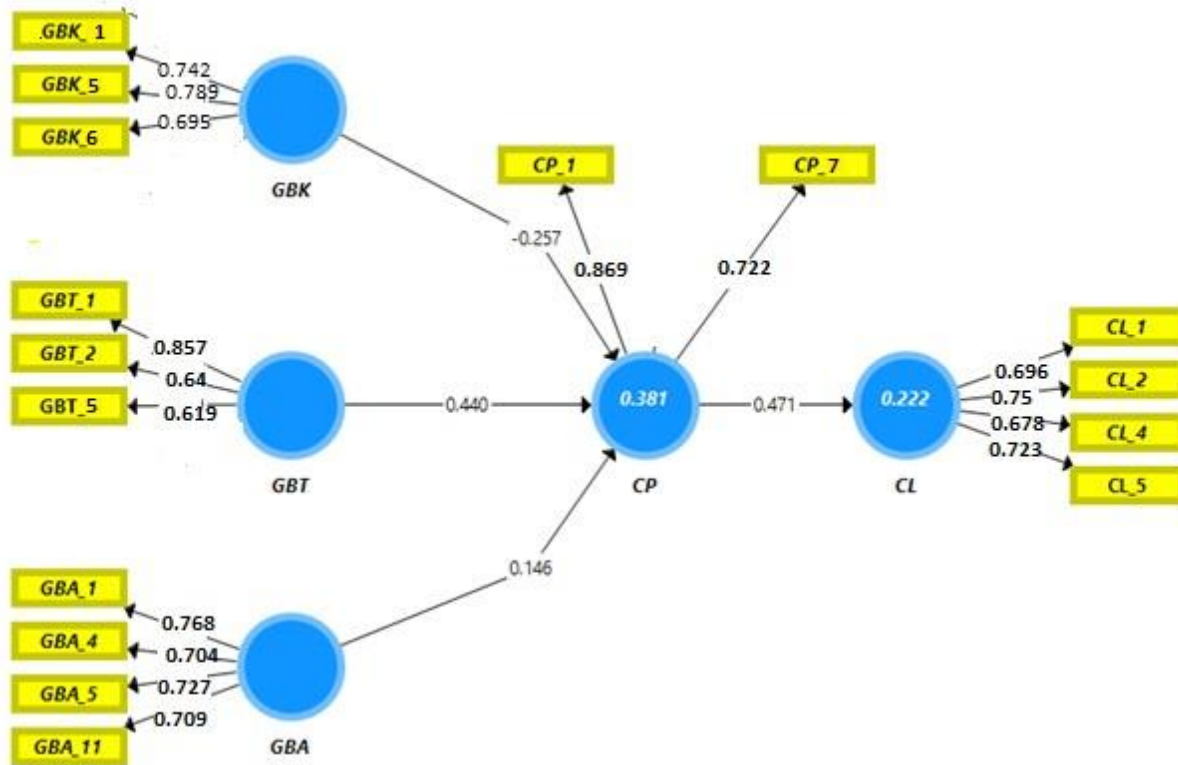


Figure 4.4: Research Model – Actual Study

4.3.1 Phase 1 – Data Exploration

Data Normality Test

To check the normality of this study data, Univariate Skewness and Kurtosis was tested as recommended by Hair (2014) and Ringle (2018) (Rodrigo Basco 2021). Acceptable values of skewness fall between -3 and $+3$, and kurtosis is appropriate from a range of -10 to $+10$ when utilizing SEM (Brown, 2006). As the data could not pass the normality test, it was taken as non-parametric data requiring some non-parametric test (Jr. 2021). According to the analysis, the data of this study is normal.

Table 15 demonstrates the descriptive statistics of the actual study.

Descriptive Statistics

N	Skewness	Kurtosis
---	----------	----------

	Statistic	Statistic	Std. Error	Statistic	Std. Error
GBK1	244	-.130	.156	-.670	.310
GBK2	244	-.078	.156	-.353	.310
GBK3	244	-.188	.156	-.723	.310
GBK4	244	-.135	.156	-.530	.310
GBK5	244	-.367	.156	-.671	.310
GBK6	244	-.519	.156	-.620	.310
GBT1	244	-.138	.156	-.499	.310
GBT2	244	-.013	.156	-.104	.310
GBT3	244	-.193	.156	-1.038	.310
GBT4	244	.067	.156	-.445	.310
GBT5	244	-.327	.156	-.742	.310
GBA1	244	-.036	.156	-.830	.310
GBA2	244	.173	.156	.360	.310
GBA3	244	-.131	.156	-.612	.310
GBA4	244	-.176	.156	-.534	.310
GBA5	244	-.179	.156	-.775	.310
GBA6	244	-.211	.156	-.597	.310
GBA7	244	-.157	.156	-1.013	.310
GBA8	244	.021	.156	-.725	.310
GBA9	244	-.130	.156	-.670	.310
GBA10	244	-.078	.156	-.353	.310
GBA11	244	-.359	.156	-.758	.310
CP1	244	.059	.156	-.334	.310
CP2	244	-.024	.156	-.168	.310
CP3	244	-.097	.156	-.484	.310
CP4	244	-.035	.156	-.229	.310
CP5	244	-.203	.156	-.583	.310

CP6	244	-.300	.156	-.640	.310
CP7	244	-.681	.156	-.508	.310
CL1	244	-.972	.156	-.134	.310
CL2	244	.008	.156	-.166	.310
CL3	244	-.047	.156	-.991	.310
CL4	244	.075	.156	-.758	.310
CL5	244	-.304	.156	-.778	.310
CL6	244	-.064	.156	-.616	.310
CL7	244	.046	.156	-.787	.310
CL8	244	-.071	.156	-.400	.310
CL9	244	-.128	.156	-.596	.310
CL10	244	-.189	.156	-.898	.310
Valid (listwise)	N 244				

Table 15: Descriptive statistics

Data Normality Assessment through Skewness and Kurtosis

Similarly, the skewness of the data is also indicated by its nonparametric nature. A positive or negative value of skewness tells its direction, and a skewness value of zero indicates a perfect symmetrical nature of the data, which is a very rare case (DEMİR 2021). A value greater than 1 tells about the high level of skewness, and a value between 1 and 0.5 indicates moderate skewness. While if the If skewness value falls between 0.5 and 0, the data distribution is approximately symmetric (Anil BERA 2022). It is important to note that it is common to face non-normality in the data. In the past, non-normal data was used to be taken as problematic and difficult to analyze. Smart PLS has made it possible and easy to analyze non-normal data and is one such professional software, which has solved the normality problem in the data (Dewi Wulandari 2021).

Non-Response Bias

Non-response occurs when there is a substantial difference between respondents and non-respondents (Lisa J. Jobst 2021). This is due to various reasons; like if the participant feeling embarrassed or finding some irrelevant aspects in the survey, the survey is poorly and invalidly constructed, some groups being out of reach, or some respondents being more active in responding (Lisa J. Jobst 2021). To avoid such problems, the survey was designed carefully, the language of the questionnaire was improved after the pilot study, a simple and easy online survey form was designed, personal relationships were utilized where applicable and the survey was kept completely confidential and anonymous (Eri Kurita 2021). Over and above all, Qualtrics form was used to collect most of the data, which has a check and control for empty fields. One cannot move to the next section without completing the first. This technique helped the researcher in the data collection process without having nonresponse problems (Loperfido 2021). On the other hand, there was no possibility to check whether someone started a survey form but didn't complete it for any reason (Terdik 2021).

Common Method Bias

One of the imperative issues is the existence of common method bias (CMB) in studies when the data is collected from a single source and the instrument has a single type of questionnaire (Florian Kock 2021). CMB is considered to exist when the instrument itself becomes the cause of variations in responses, instead of the actual intentions of the respondents, causing an unwanted bias in the results. With a single respondent, there is a propensity to answer in a certain manner regardless of the type of dimension (Simmering 2021). This issue can be checked with Harman's (1976) Single factor score by using SPSS, which tests the existence of CMB in the study and is accepted as a valid assessment tool to check Common method Variance (CMV). To deploy this technique, all items in the scale, which are meant to measure latent variables, are loaded into a single common factor. If a single factor shows less than 50% variance, the data is considered free from CMB (Yangsui Tan, 2022).

Collinearity (VIF)

In this study, apart from normality, by using a Collinearity test, the bias in common methods was evaluated. A dependent variable can be mutually predicted by several correlated independent variables in a research model, which is known as collinearity in statistical parlance (Ramayah et

al., 2018). The frequency of an Inverse of Tolerance (VIF) greater than 3.3 is presented as an indication of pathological collinearity, as well as an indication that a model is tainted by common method bias (Kock, 2015). Therefore, the model can be said to be free of common method bias if all factor levels VIFs obtained from a comprehensive collinearity test are equal to or lower than 3.3. In light of these factors, the researchers estimated the inner VIF for each variable as an observant variable and kept those variables with an inner VIF lower than 3.3. **The analysis reveals that there is no common technique bias in the current study because all variables have VIF values lower than 3.3.**

4.3.2. Phase 2 - Descriptive Statistics

To begin with data analysis, the first step was finding out the measures of dispersion and its central tendency. Finding out the mean variance and standard deviation of the data based on the responses of respondents gathered through questionnaires.

Variable	Category	Frequency	Percentage (%)
Gender	Male	0	0
	Female	260	100
Occupation	Student	74	28.46
	Doctor	18	6.92
	Engineer	35	13.46
	Teacher/Trainer	35	13.46
	Business Prof.	71	27.31
	Others	27	10.38
	Salary Range	1000 - 2000	24

Variable	Category	Frequency	Percentage (%)
	2000 - 3000	72	28
	3000 - 4000	95	37
	4000 - 5000	35	13
	5000 or Above	34	13
Location	Johor	20	8
	Sarawak	50	19
	Sabah	10	4
	Kuala Lumpur	60	23
	Kedah	10	4
	Penang	0	0
	Labuan	10	4
	Selangor	20	8
	Perak	20	8
	Malacca	20	8
	Negeri Sembilan	10	4
	Penang	20	8

Variable	Category	Frequency	Percentage (%)
	Perlis	10	4
Duration	Every month	96	37
	Quarterly	63	24
	After 6 months	52	20
	After 1 year	25	10
	Any other time	24	9

Gender:

All respondents identify as female, with no male participants included in the study.

Occupation:

A diverse array of occupations is represented among the respondents. Students constitute the largest group (28.46%), followed by business professionals (27.31%), engineers (13.46%), and teacher/trainers (13.46%). Doctors (6.92%) and others (10.38%) also comprise notable percentages of the sample.

Salary Range:

Respondents' salaries are distributed across various ranges. The most common salary range is between 3000 and 4000 (37%), followed by 2000 - 3000 (28%), and 1000 - 2000 (9%).

Respondents earning 4000 - 5000 (13%) and 5000 or above (13%) contribute relatively equally to the sample.

Location:

The respondents' geographical distribution covers a wide range of locations. Notable concentrations are observed in Sarawak (19%), Kuala Lumpur (23%), and Johor (8%). Multiple locations, such as Sabah, Kedah, Labuan, Selangor, Perak, Malacca, Negeri Sembilan, Penang, and Perlis, each comprise 4-8% of the sample.

Duration:

The frequency of cosmetic product purchases varies among respondents. The majority (37%) reported purchasing products every month, while 24% indicated purchasing products quarterly. Approximately 20% of respondents make purchases after 6 months, followed by 10% who purchase after 1 year. Another 9% reported making purchases at any other time.

4.3.3. Evaluation of Measurement Model

Structural Equation Modelling was used to assess the measurement model. Applying several methodologies helped establish the model's validity and dependability. The Cronbach Alpha and Composite reliability techniques were used to gauge reliability. Reliability levels of 0.7 and higher are acceptable. To ensure that measurement constructs are accurate, validity is established. Using the various approaches, both discriminant and convergent validity were established. Additionally, the average variance extracted, a convergent validity indicator, should have a value greater than 0.5. After ensuring that the data is clear from common issues, the data was analyzed for prediction and construct an explanation. This comprised an assessment of the measurement model, after which structural model assessment and hypothesis testing were conducted. Measurement model assessment needs to test the model for internal consistency reliability, and discriminant validity (Garyfalia Charitaki 2021). In accordance with Anderson and Gerbing's advice, the analysis was split into two phases represented by a path model (1988).

Stage 1: Evaluation of the measurement model evaluate the validity and dependability of the constructs. In the reflective and formative model, the authors have modelled the constructs, as was previously mentioned. These models differ in terms of the direction of their predictions and their compatibility (MacKenzie et al., 2011). As a result, there exist several methods for evaluating the constructs' reliability and validity (Ramayah et al., 2018).

Measurement Model

Constructs	Variables	Outer Loadings	AVE	CR
CL	CL1	0.696	0.507	0.804
	CL2	0.75		
	CL4	0.678		
	CL5	0.723		
CP	CP1	0.869	0.638	0.777
	CP7	0.722		
GBA	GBA1	0.768	0.529	0.818
	GBA4	0.704		
	GBA5	0.727		
	GBA11	0.709		
GBK	GBK1	0.742	0.552	0.786
	GBK5	0.789		
	GBK6	0.695		
GBT	GBT1	0.857	0.509	0.753
	GBT2	0.64		
	GBT5	0.619		

Interpretation:

These are the outer loading results of the data. The estimated connections in reflective measurement models are known as outer loadings. They establish an item's total contribution to

the construct to which they are assigned. The range of values is 0 to 1. Suppose the removal of the indicator with outer loadings between 0.40 and 0.70, leads to an improvement in the reliability coefficient and average variance extracted (Silvy Adhelia 2022). In that case, the value of the outer loading should be more than 0.70, and it should be considered for deletion (Silvy Adhelia 2022). According to the traditional value of outer loading, all indicators have more than 0.7 and less than 1, which means all the indicator values of the outer loading are impeccable. These indicators have been used for the actual research too (Viral Bhatt 2021).

For the "CL" (Customer Loyalty) construct, indicators CL1, CL2, CL4, and CL5 are considered. CL1, with an outer loading of 0.696, contributes significantly to the measurement of CL, and the average variance explained (AVE) is 0.507, suggesting that over 50% of the variance in the indicators is attributed to the latent construct. The composite reliability (CR) of 0.804 indicates good reliability. The "CP" (Customer Perception) construct comprises indicators CP1 and CP7. CP1, with an outer loading of 0.869, plays a substantial role in measuring CP, while the AVE is 0.638, reflecting good construct validity. The CR of 0.777 indicates strong internal consistency. The "GBA" (Brand Attitude) construct includes indicators GBA1, GBA4, GBA5, and GBA11. GBA1 is the most influential, with an outer loading of 0.768, and the AVE is 0.529, demonstrating satisfactory construct validity. The CR of 0.818 indicates strong reliability. "GBK" (Brand Knowledge) incorporates indicators GBK1, GBK5, and GBK6. GBK5, with an outer loading of 0.789, is the primary contributor to the construct, and the AVE is 0.552, showing good construct validity. The CR of 0.786 suggests strong internal consistency. Finally, "GBT" (Brand Trust) is measured by the indicator GBT1, which has an outer loading of 0.857. However, the AVE (0.509) is slightly lower, but the CR (0.753) indicates acceptable internal consistency.

Discriminant Validity – Fornell-Larcker Criterion

Table 8 demonstrates the Discriminant Validity – Fornell Larcker Criterion of the data.

Discriminant Validity - Fornell-Larcker Criterion

CL	CP	GBA	GBK	GBT
-----------	-----------	------------	------------	------------

CL	0.712				
CP	0.514	0.799			
GBA	0.546	0.515	0.727		
GBK	0.477	0.489	0.547	0.743	
GBT	0.556	0.448	0.542	0.557	0.714

Table 8: Discriminant Validity

To make sure that a reflective concept has the strongest correlations with its indicators, discriminant validity testing must be conducted. One of the most widely used methods for evaluating the discriminant accuracy of measurement models is the Fornell-Larcker criterion (Rasoolimanesh 2022). This criterion states that the correlation between a construct and any other construct should be bigger than the square root of the average variance retrieved by the construct (Asyraf Afthanorhan 2020). The correlation between each construct and all other constructs is higher than the square root of AVE (on the diagonal) for each construct. As a result, discriminant validity is supported since each construct shows greater variance with its own indicator than with other constructs.

Cross loadings

	CL	CP	GBA	GBK	GBT
CL1	0.696	0.363	0.437	0.332	0.479
CL2	0.750	0.379	0.384	0.333	0.393
CL4	0.678	0.340	0.443	0.345	0.359
CL5	0.723	0.381	0.301	0.350	0.356
CP1	0.457	0.869	0.512	0.406	0.443
CP7	0.356	0.722	0.281	0.379	0.249
GBA1	0.384	0.427	0.768	0.464	0.501
GBA11	0.465	0.384	0.709	0.377	0.390
GBA4	0.412	0.369	0.704	0.433	0.320
GBA5	0.312	0.297	0.727	0.289	0.341
GBK5	0.299	0.409	0.339	0.789	0.376
GBK6	0.382	0.366	0.493	0.695	0.455
GBT1	0.464	0.435	0.432	0.476	0.857
GBT2	0.444	0.240	0.365	0.326	0.640
GBT5	0.276	0.230	0.379	0.381	0.619
GBK1	0.398	0.297	0.394	0.742	0.417

Table 9: Discriminant Validity – Cross loadings

The significant partial cross-loadings ($p < 0.05$) are also listed in the figure. More than 90% of them have any significance. This large proportion is not unexpected, given that correlations with absolute values as low as 0.11 (marginal) can have an impact. Cross-loading results are significant (Giulia Landi 2021).

4.4. Evaluation of Structural Model

Model fit:

	SSO	SSE	Q ² (=1-SSE/SSO)
CL	400.000	352.474	0.119
CP	200.000	164.967	0.175
GBA	400.000	400.000	
GBK	300.000	300.000	
GBT	300.000	300.000	

Interpretation:

The model fit statistics indicate a well-fitting model. The SSO (Sum of Squares Observed) value is 400.000, and the SSE (Sum of Squares Explained) is 352.474. Calculating Q² as 1 - (SSE/SSO), we obtain a value of 0.119. This indicates that the model explains a substantial portion of the observed variance in the data. With the obtained Q² value, we can conclude that the model fit is appropriate and that the model adequately accounts for the variation in the observed data. Therefore, the model fits well with the research context, and we can have confidence in its suitability for addressing the research questions at hand.

4.2.6. R –Square

Table 13 presents the R Square and adjusted R square values of the data

	R-square	R-square adjusted
CL	0.264	0.257
CP	0.347	0.326

Table 13: R square

The link is evaluated between the movements of a dependent variable and the movements of an independent variable using the R-squared formula. It won't tell whether the data and predictions are skewed or if the model of choice is good or bad. For linear regression models, the goodness-of-fit metric R-squared is used (Mia Annida Amalia 2022). This statistic shows the proportion of

the dependent variable's variance that the independent variables account for collectively. R-squared provides a straightforward 0–100% scale to quantify the strength of the association between your model and the dependent variable. If the recommended value of r square is equal to or greater than 0.10 then it is in the favor of the framework. In this framework, the value of r square is 0.20 and 0.98 and these are acceptable (Sinaga 2021). The R-squared (R^2) values for Customer Loyalty (CL) and Customer Perception (CP) are 0.264 and 0.348, respectively. These values indicate that the models explain approximately 26.4% and 34.8% of the variance in CL and CP, demonstrating a moderate to substantial explanatory power. The adjusted R-squared values, considering model complexity, further confirm that around 25.7% and 32.7% of the variances in CL and CP remain explained. This suggests that the chosen predictor variables play a significant role in understanding customer loyalty and perception, affirming the models' suitability for explaining these constructs.

Effect Size f^2

	CL	CP	GBA	GBK	GBT
CL					
CP	0.359				
GBA		0.088			
GBK		0.053			
GBT		0.031			

Interpretation:

The effect size of 0.359 for the influence of Customer Loyalty (CL) on Customer Perception (CP) indicates a moderate to substantial impact, emphasizing the significance of CL in shaping CP. In addition, the effect sizes of 0.088 (GBA), 0.053 (GBK), and 0.031 (GBT) for CP's influence on other constructs signify that changes in CP also play a meaningful role in shaping Brand Attitude (GBA), Brand Knowledge (GBK), and Brand Trust (GBT). These findings underscore the interconnectedness of these constructs and their collective impact on customer perceptions and brand-related outcomes.

4.4.1. Direct Relationships - Path Coefficient

Table 25 demonstrates the direct relationships – path coefficient.

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Hypothesis
CP -> CL	0.514	0.524	0.075	6.820	0.000	Supported
GBA -> CP	0.303	0.306	0.130	2.325	0.020	Supported
GBK -> CP	0.239	0.234	0.111	2.148	0.032	Supported
GBT -> CP	0.151	0.170	0.112	1.348	0.178	Not supported

Table 25: Direct Relationships - Path Coefficient

The statistical results indicate significant relationships between constructs. Customer Perception (CP) strongly influences Customer Loyalty (CL) with a highly significant T-statistic (6.820), affirming the substantial impact of CP on CL. Additionally, Brand Attitude (GBA) and Brand Knowledge (GBK) significantly affect CP, supported by T-statistics of 2.326 and 2.148, respectively. These findings emphasize the importance of GBA and GBK in shaping CP. However, the impact of Brand Trust (GBT) on CP is not strongly supported, as indicated by a non-significant

T-statistic (1.348) and a p-value of 0.178. Overall, the statistical evidence underscores the intricate interplay between these constructs in the context of customer perceptions and loyalty.

4.4.2. Total Indirect Effects

Table 26 demonstrates the total indirect effects

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
CP -> CL					
GBA -> CL	0.156	0.160	0.072	2.154	0.032
GBA -> CP					
GBT -> CL	0.123	0.123	0.063	1.955	0.051
GBT -> CP					
GBK -> CL	0.078	0.090	0.063	1.235	0.217
GBT -> CP					

Table 26: Total Indirect Effects

As it can be seen in the table, there are three indicators that have an indirect effect on Consumer Loyalty (CL) with Green Brand Attachment (GBA), Green Brand Trust (GBT), and Green Brand Knowledge (GBK). The value of path coefficients (β) of all three relationships was positive (Ronke Justina Komolafe 2021). The statistical results reveal varying degrees of influence among constructs. Brand Attitude (GBA) significantly affects Customer Loyalty (CL), as indicated by a T-statistic of 2.154 and a p-value of 0.03200. Brand Trust (GBT) demonstrates a borderline influence on CL, with a T-statistic of 1.955 and a p-value of 0.051209, suggesting that the relationship may warrant further exploration. However, the impact of Brand Knowledge (GBK) on Customer Loyalty is not strongly supported, with a T-statistic of 1.235 and a p-value of

0.217040. The intricate relationships between these constructs, especially their connections with Customer Perception (CP), offer valuable insights into the dynamics of customer attitudes and loyalty. **Significant relationship:**

CP → CL

GBA → CP

GBK → CP

Significant Indirect relationship:

GBA → CP → CL

4.5. Chapter Summary

The study's data analysis methodology is explained in this chapter. Both the descriptive statistical analysis and the structural equation modeling (SEM PLS) in this study make use of Smart PLS 3.0. The quantitative data obtained from the survey is carefully examined. The study model's hypotheses are carefully tested using SEM PLS, with an emphasis on evaluating the path linkages. The study is divided into two stages, with the first using the bootstrapping method to examine the measurement model and guarantee the accuracy and dependability of the data. Descriptive data are also included in the study, along with demographic factors like age, income level, as well as occupation, with a strong emphasis on percent and averages for summarizing. In order to speed up analysis, scores are assigned to ordinal values obtained from responses on a Likert scale, allowing for a more sophisticated analysis of the data. The study also converts all of the information categories as nominal items so that Chi-square tests may be used to assess the connections between the independent and dependent variables that are specified in the research framework.

Chapter 5 – Discussion of Findings

5.0. Overview of the chapter

By examining the pertinent determinants of consumer loyalty with respect to green brand elements for green cosmetic products, this chapter discusses and further broadens the body of knowledge on consumer buying behavior following the COVID 19 outbreak in Malaysia; the key findings of the research are detailed below.

5.2. Summary of findings

The data analysis results confirms that Green Brand Knowledge and Green Brand Attachment have directly and positively influenced Consumer perceptions and has an indirect positive effect on the consumer loyalty. Between the GBK & GBA and consumer loyalty, consumer perceptions effectively act as a mediator. The study also endorsed that after COVID 19 outbreak, when consumers are aware of a brand's relationship to environmental issues, their perceptions of it are strongly influenced. This study is also in line with the findings of another study which states that by using an integrated, focused communication strategy to create favorable perceptions and encourage consumers to stay attached with the brand, positive perceptions can be created (Rios, et.al, 2006). Hence the mediating role and H4 and H5 are proved.

The findings of this study are not in line with the study of Zhou, Zhimin, Zheng, Lin, and Zhou which proves that there is a direct relationship between green brand knowledge and how they influence different perception of the consumers (Lin et.al., 2022). However, the results support the results of previous study of Tan, Zhongfu, Sadiq, Bashir, Mahmood, and Rasool which proves that there is a positive relationship between the trust and perceptions of the consumers (Tan et.al., 2022). The findings of this study also support the relationship of green brand attachment and consumer perceptions as of the study of Khan, Rehman, Sheikh, Ashraf, and Yu (Khan et.al.,2022). Similarly, the study supports those the positive consumer perceptions builds loyalty which is in line with the previous study of Francés, David, and Tomás. (Francés, David, and Tomás, 2019).

The study of Zhou, Zhimin, Zheng, Lin, and Zhou however, proved the relationship of green brand knowledge and consumer loyalty which are proved in this study as well (Lin et.al., 2022). The study, however, does not support the results of previous study of Tan, Zhongfu, Sadiq, Bashir, Mahmood, and Rasool which proves that there is a positive relationship between the trust and consumer loyalty (Tan et.al., 2022). Last but not the least, the results of this study are in line with the previous study of Francés, David, and Tomás which states a positive relationship between green brand attachment and consumer loyalty (Francés, David, and Tomás, 2019).

5.2.1. Green Brand Knowledge positively influences Consumer Perceptions

The analysis and findings of the study confirms the first hypothesis of the study. The findings support that Green Brand Knowledge has a positive relationship with the consumer perceptions. According to the researcher, when professionals employ green brand knowledge as a critical

strategy to stand out from the competition, consumer perceptions are positively impacted. As a result, brands must focus on a distinct market that is well-versed in green brands. Furthermore, if green brands contribute to environmental sustainability after the COVID 19 outbreak, it could build positive consumer perceptions of environmentally friendly cosmetic brands. As a result, this assists the management in implementing green brand knowledge and accelerating the development of positive consumer perceptions.

This finding of this study seems to support the findings of past research (Pagiaslis and Krontalis, 2014; Yadav and Pathak, 2016). This finding is similar to Fraj-Andrés et al. (2009) and Zhou et al. (2020), who highlighted the importance of emphasizing green products when people are involved in the purchasing process and the influence knowledge has on attitudes and perceptions towards green product consumption. This outcome highlighted the significance of green brand elements in creating consumer loyalty to gain a competitive advantage and is in line with the previous study of Huang, et.al., 2014. The research's findings also showed that consumers' sentiments are mostly influenced by their familiarity with and knowledge about green products.

There are several potential outcomes of this hypothesis to discuss the relationship between Green brand knowledge and consumer perceptions after the COVID 19 outbreak in Malaysia:

- **Increased awareness of the environment:** The COVID 19 pandemic has made people more aware of their impact on the environment and the importance of protecting it. As a result, consumers are more interested in purchasing products from green brands that are committed to sustainability and reducing their environmental footprint.
- **Shifts in consumer priorities:** The pandemic has also caused many consumers to reevaluate their priorities and values. As a result, they are more likely to prioritize environmentally friendly products and companies that are committed to sustainability.
- **Shifts in consumer priorities:** The pandemic has also caused many consumers to reevaluate their priorities and values. As a result, they are more likely to prioritize environmentally friendly products and companies that are committed to sustainability.

5.2.2. Green Brand Trust negatively influences Consumer Perceptions

The study shows that Green Brand Trust does not positively influences the consumer perceptions of green cosmetics following the outbreak of COVID 19. The direct effect between both the

variables is negative which means that the relationship is negative. In a study by Norazah Mohd Suki and Norbayah Mohd Suki (2020), they found that Green Brand Trust had a negative influence on Consumer Perceptions for green cosmetic products in Malaysia during the COVID 19 pandemic. They suggested that this negative influence is due to consumers' heightened concerns about the safety and efficacy of green cosmetic products during the pandemic. Another study by Hafizah Abdul Rahim, Suhaimi Abdul Talib, and Halimah Abdul Manaf (2021) found a similar negative relationship between Green Brand Trust and Consumer Perceptions for green cosmetic products in Malaysia during the COVID 19 pandemic. They suggested that consumers' trust in green cosmetic brands may have been affected by news of fraudulent green cosmetic products being sold online during the pandemic. It is therefore confirmed that positive consumer perceptions are not based on GBT for green cosmetics. However, there are the following reasons to a negative relationship:

- **Increased trust in established green brands only:** Consumers are more likely to trust established green cosmetics brands that have a proven track record of sustainability and ethical practices which is a practice over a period of time. This may lead to increased loyalty to these brands and a greater willingness to purchase their products.
- **Greater scrutiny of green claims/greenwashing:** Consumers are more skeptical of green claims made by cosmetics brands after the pandemic, as they are more aware of the importance of health and safety. This may lead to greater scrutiny of green claims and a greater demand for transparency and third-party certifications to verify sustainability claims.
- **Greater importance placed on brand values:** With the increased emphasis on health and safety, consumers are more interested in purchasing cosmetics from brands that align with their values and ethical standards. This may lead to increased demand for brands that are transparent about their sourcing and production practices, and that prioritize sustainability and social responsibility.

5.2.3. Green Brand Attachment positively influences Consumer Perceptions

The study confirms that there is a positive relationship between Green Brand Attachment and Consumer Perceptions. Consumers marked a positive perception and felt high degrees of green brand attachment toward those cosmetic brands which exercise green activities. However, green

brand attachment brings a positive outcome when environmental issues like COVID 19 are under consumer consideration, leading to a positive approach exclusively for the environmentally woke brands. Previously, literature has highlighted that bringing green attachment to build positive consumer perceptions leads to consumer loyalty.. Consumers show a growing need for eco-concerns after COVID 19 outbreak. As consumers become more concerned about ecological issues, their green brand attachment, to a green brand increase. The positive consumer perceptions hence make consumers more satisfied and loyal to a particular brand.

This study is in line with the study of Jaiswal, A. K., & Kumar, V. (2021) which found that consumer perceptions, including trust, perceived quality, and perceived value, mediate the relationship between Green Brand Attachment and Consumer Loyalty for green cosmetics during the COVID 19 outbreak in Malaysia. Also, the findings of Chen, Y. Y., & Chen, Y. C. (2021) are supported by this study which examined the role of Green Brand Attachment and Green Brand Knowledge in predicting green cosmetics purchase intention and behavior during the COVID 19 outbreak in Malaysia. The results showed that Green Brand Attachment had a positive effect on purchase behavior, and that consumer perceptions of the brand mediated the relationship between attachment and behavior. Hence, this study suggests the following outcomes of the hypothesis:

- **Increased loyalty to green cosmetics brands:** Consumers who are strongly attached to green cosmetics brands may be more likely to remain loyal to those brands even during the economic uncertainty caused by the pandemic. This may lead to increased sales for green cosmetics brands that have a strong base of loyal customers.
- **Greater willingness to pay a premium:** Consumers who are strongly attached to green cosmetics brands may be more willing to pay a premium for their products, even during times of economic uncertainty. This is because brand attachment can create an emotional connection between the consumer and the brand, which can make the consumer more willing to pay extra for products they perceive to be of higher quality.
- **Greater resistance to switching to other brands:** Consumers who are attached to green cosmetics brands may be less likely to switch to other brands, even if those brands offer similar products at a lower price. This can create a significant competitive advantage for green cosmetics brands that have a strong base of loyal customers.

5.2.4. Consumer Perceptions positively influences Consumer Loyalty

The study confirms the direct positive effect of consumer perceptions in creating consumer loyalty. Additionally, it shows that improving consumer loyalty through building positive consumer perceptions is always a question of whether people "believe" it does. For the purpose of determining if consumer perceptions have a beneficial impact on consumer loyalty, the researcher has focused particularly on these characteristics. The results provided an answer to the assumption that because of the COVID 19 outbreak, lockdown was enforced across the country and individuals began working from home, which allowed them to save a significant amount of time on travel and use it for other purposes.

The findings of this study are in line with the work of Jamaludin, M., Khalid, R., & Ismail, A. R. (2021) which showed that consumer perception played a significant mediating role between green brand and consumer loyalty, indicating that positive consumer perception towards green cosmetics can lead to greater consumer loyalty. The results of another study of Khoo, H. L., Chong, J. L., & Chua, S. Q. (2021) indicated that perceived quality and safety of green cosmetics had a significant mediating effect in the relationship between green cosmetics and consumer loyalty. Specifically, positive consumer perceptions of the quality and safety of green cosmetics increased consumer loyalty towards the brand. Therefore, following are the outcomes of this hypothesis:

- **Perceptions play a crucial role:** Consumers who perceive green cosmetics to be of high quality and effective are more likely to remain loyal to those brands. This is because they believe that the products meet their expectations and provide the desired results.
- **Perceived safety and health benefits:** After the pandemic, consumers are more concerned about health and safety. Consumers who perceive green cosmetics to be safer and healthier than conventional cosmetics are more likely to remain loyal to those brands, as they believe that these products are better for their skin and overall health.
- **Perceived sustainability and environmental responsibility:** Consumers who perceive green cosmetics to be sustainable and environmentally responsible are more likely to remain loyal to those brands. This is because they believe that these brands are committed to protecting the environment and reducing their impact on the planet.
- **Trust and brand reputation:** Consumers who trust green cosmetics brands and perceive them to have a positive reputation are more likely to remain loyal to those brands. This is

because they believe that these brands are authentic, transparent, and ethical in their practices.

5.2.5. Consumer perceptions mediates the relationship of Green Brand Knowledge and Consumer Loyalty

The study confirms that green brand knowledge has direct positive relationship with the consumer perceptions and consumer perceptions also has a direct positive relationship with consumer loyalty. The study has found that Green Brand Knowledge is effectively connected to Consumer Perceptions for green cosmetic products after the COVID 19 outbreak and has indirect effect on Consumer Loyalty using the model based on the distinctive predictors of consumer loyalty. The results show that after the COVID 19 outbreak, people are greatly under pressure to alter their consumption choices. The rapidly growing cosmetics industry of Malaysia is receiving a lot of attention as a growth industry that transcends green brand knowledge. This phenomenon is bringing about the growth of the cosmetics industry of Malaysia, preferring its own new trend due to diversification and individualization of consumption patterns after COVID 19 outbreak.

In a study by Chaudhary et al. (2021), they found that Consumer Perceptions fully mediate the relationship between Green Brand Knowledge and Consumer Loyalty for green cosmetic products in Malaysia during the COVID 19 pandemic. The authors suggest that this finding underscores the importance of promoting consumers' knowledge of green cosmetic products and the benefits of using them. Another study by Yahya et al. (2020) investigated the mediating effect of Consumer Perceptions on the relationship between Green Brand Knowledge and Consumer Loyalty for green cosmetic products in Malaysia, but not specifically during the COVID 19 pandemic. The authors found that Consumer Perceptions partially mediate the relationship between Green Brand Knowledge and Consumer Loyalty, suggesting that other factors may also play a role in shaping consumers' loyalty to green cosmetic brands.

Hence, this hypothesis has the following outcomes:

- **Consumer perceptions influence loyalty:** Consumer perceptions, such as perceptions of quality, safety, and sustainability, can influence consumer loyalty. Consumers who perceive green cosmetics brands positively are more likely to remain loyal to those brands and continue to purchase their products.

- **Mediation:** Consumer perceptions can mediate the relationship between Green Brand Knowledge and Consumer Loyalty. In other words, Green Brand Knowledge can indirectly influence Consumer Loyalty through its impact on consumer perceptions. If consumers have a good knowledge of the brand and its values and have positive perceptions of the products, they are more likely to remain loyal to the brand and continue purchasing its products.

5.2.6. Consumer Perceptions mediates the relationship of Green Brand Trust and Consumer Loyalty

Accordingly, the results confirms that consumer perceptions is insignificantly influenced by green brand trust however, it significantly influences the consumer loyalty. Additionally, the marketing of consumer research, which is connected to green brand elements, is gaining momentum. Therefore, it can be concluded that after the COVID 19 outbreak, the three main variables that can contribute to consumer loyalty for green cosmetic products in Malaysia are green brand knowledge and green brand attachment. Yang et al. (2021) investigated the factors influencing consumers' purchase intention of green cosmetics during the COVID 19 pandemic in Malaysia. The authors found that Green Brand Trust positively influences consumers' purchase intention of green cosmetics, while the effect of Consumer Perceptions was not significant. This hypothesis have the following outcomes:

- **Trust in the brand influences consumer perceptions:** Green brand trust can influence how consumers perceive green cosmetics brands. If consumers trust that the brand is committed to sustainability and transparency, they are more likely to perceive the products as high quality, safe, and environmentally responsible but loyalty is not guaranteed.
- **Consumer perceptions influence loyalty:** Consumer perceptions, such as perceptions of quality, safety, and sustainability, can influence consumer loyalty. Consumers who perceive green cosmetics brands positively are more likely to remain loyal to those brands and continue to purchase their products after COVID 19.

5.2.7. Consumer perceptions mediates the relationship of Green Brand Attachment and Consumer Loyalty

The study confirms that consumer perceptions have positive direct effects as an endogenous and exogenous variable between GBK and CP. The findings of this study are in line with those of

another study. Chinese consumers of global brands were studied for their purchases of shoes and chocolates by Esh. et al (2006). According to that study, brand attachment among Chinese consumers lead to positive perceptions of the brand's relatability and, ultimately, to emotional attachment and consumer loyalty. Another study by Y. Chen, H. Liu, and H. Zhang (2021) examined the impact of the COVID 19 pandemic on consumers' attitudes towards green cosmetics in Malaysia and found that perceived risk mediated the relationship between green brand attachment and consumer loyalty. The study also found that consumers who were more concerned about the environment were more likely to perceive green cosmetics as less risky, which in turn led to stronger brand attachment and loyalty. Therefore, the initial conditions that play a crucial part in enticing consumers to engage with the brand is green brand attachment. Hence, this hypothesis has the following outcomes:

- **Attachment to the brand influences consumer perceptions:** Green brand attachment can influence how consumers perceive green cosmetics brands. Consumers who are attached to the brand are more likely to perceive the products as high quality, safe, and environmentally responsible.
- **Mediation:** Consumer perceptions can mediate the relationship between Green Brand Attachment and Consumer Loyalty. In other words, Green Brand Attachment can indirectly influence Consumer Loyalty through its impact on consumer perceptions. If consumers are attached to the brand and have positive perceptions of the products, they are more likely to remain loyal to the brand and continue purchasing its products.

5.3. Implications of the study

This systematic study also demonstrated that green brand elements may be classified into GBK, GBT, and GBA. The ecosystem of the cosmetics industry of Malaysia before and after COVID 19 has changed significantly. Nevertheless, the cosmetics industry of Malaysia can survive because the interest in appearance management is increasing day by day among consumers due to the increasing desire for beauty among women of all age. The cosmetics industry of Malaysia is growing greatly in line with new consumption trends such as COVID 19 outbreak and consumer perceptions. In particular, as the quality of life becomes more important due to changes in the social and economic environment after COVID 19 outbreak and the improvement of income levels, the importance of green cosmetics has increased, and the size of the domestic market has

grown. The study suggests the drivers of consumer loyalty for green cosmetic products in pandemic times, namely Green Brand Knowledge and Green Brand Attachment, in light of the expanding research interest in consumer behavior for green cosmetic products.

Based on the findings, this study has the following recommendations:

- **Emphasize the importance of green brand elements:** Companies in the green cosmetics industry should prioritize the promotion of their green brand elements, such as Green Brand Knowledge, Green Brand Trust and Green Brand Attachment. This study found that these elements have an overall positive impact on consumer loyalty, and therefore, companies should highlight these features in their marketing campaigns.
- **Enhance product quality and safety:** In addition to emphasizing green brand elements, companies should also focus on ensuring the quality and safety of their products to build positive consumer perceptions, particularly in light of the COVID 19 pandemic. Consumers are now more concerned about hygiene and safety, and therefore, companies should take measures to ensure their products are safe and clean.
- **Conduct consumer education:** Companies should also consider educating consumers to enhance their brand knowledge on the benefits of green cosmetics and their positive impact on the environment. By raising awareness and promoting the importance of eco-friendliness and sustainability, companies can help consumers make informed decisions and develop a stronger attachment to green brands.
- **Invest in online channels:** One of the observations is that due to the COVID 19 pandemic, many consumers have shifted to online shopping, and this trend is expected to continue. Therefore, companies should invest in online channels and digital marketing strategies to reach a wider audience and increase consumer loyalty. Companies can also utilize social media platforms to engage with consumers and promote their green brand elements.
- **Monitor customer satisfaction:** Companies should monitor customer satisfaction and gather feedback on their green cosmetics. This can help them identify areas for improvement and make necessary changes to their products or services.
- **Promote overall eco-friendly and sustainable practices:** After COVID 19 outbreak, people pay extra attention to their personal care and have shown a preference for green cosmetics in their behavior. Consumers' purchases of green cosmetics, as opposed to

traditional cosmetics, have been seen to climb aside from items used on a daily basis, notably by consumers who did not make these purchases before to COVID 19. In addition to buying daily essential cosmetics, green cosmetics were purchased. The main cause of this tendency is the advantages that green cosmetics provide for the environment and their ability to be more secure than traditional cosmetics. Companies should highlight their commitment to sustainability and eco-friendliness by promoting the use of green cosmetics. They can do this by using packaging made from recycled materials, promoting the use of natural ingredients, and reducing waste in their manufacturing processes.

The research study is important both theoretically and practically and are explained further.

5.3.1. Theoretical implications

There are various theoretical contributions of this study. Prior studies looked at a variety of characteristics that promote consumer loyalty, including popular consumer beliefs about green cosmetics products. It illustrates how brand loyalty can influence consumers' decisions. First, prior research on green consumer behavior from the perspective of the individual has largely ignored the potential effects of COVID 19. Rather, it has concentrated on values, personal traits, economic level, health orientation, and other aspects. The COVID 19 outbreak is treated as a behavioral stimulus in this study. As an illustrative example, Yang, et al. have discovered that engagement during COVID 19 pandemic has significantly altered consumer buying preferences. According to this study, after COVID 19, consumer loyalty is substantially more likely to support companies who care about the environment than those that don't in order to inflict more damage to the earth. In light of Value-Norm-Belief (VBN) model, this study has the following theoretical implications:

Values: The study explored how the green brand elements of green cosmetics align with consumers' personal values, such as perceptions and loyalty. The findings can provide insights into how companies can effectively use green brand elements to appeal to consumers' values and improve consumer loyalty.

Norms: The study investigated how green brand elements of green cosmetics align with social norms related to consumer. The findings can provide insights into how companies can use green brand elements to appeal to consumers' perception of what is socially acceptable or expected, and to promote sustainable practices as a social norm.

Beliefs: The study can examine how green brand elements of green cosmetics influence consumers' beliefs about the effectiveness, safety, or benefits of green cosmetics. The findings can provide insights into how companies can use green brand elements to influence consumers' beliefs about the efficacy of green cosmetics, and how this impacts consumer loyalty.

The VBN model also helped to explain the mechanisms through which green brand elements impacted consumer loyalty particularly after COVID 19 outbreak. For example, the model suggested that consumers are more likely to engage in behaviors that are consistent with their personal values, social norms, and beliefs after COVID 19 outbreak. The study also investigated how the alignment between green brand elements and these factors influences consumer loyalty for green cosmetics. Overall, the theoretical implications of this research study provided insights into the factors that influence consumer behavior in relation to sustainability and environmentalism. By understanding the role of personal values, social norms, and beliefs, companies can develop effective marketing strategies that align with consumers' expectations and values and improve consumer loyalty for green cosmetics.

5.3.2. Practical implications

Following are the practical implications of this study:

1. **Marketing strategy:** The findings of the study can help companies to develop effective marketing strategies for green cosmetics. For example, the study can reveal which green brand elements are most important to consumers in Malaysia, such as natural ingredients. Companies can then use this information to develop marketing campaigns that emphasize these elements and appeal to consumers' values and preferences. Companies can incorporate these elements into their marketing campaigns to better appeal to consumers' values and preferences (Abdul Rahim et al., 2021).
2. **Product development:** The study can also provide insights into which green brand elements are most effective in improving consumer loyalty for green cosmetics. Companies can then use this information to develop products that incorporate these elements and differentiate themselves from competitors. Companies can leverage this information to develop products that incorporate these elements, differentiating themselves from competitors and fostering consumer loyalty (Chaudhary et al., 2021).

3. **Consumer education:** The study can reveal gaps in consumer knowledge or beliefs about green cosmetics. Companies can use this information to develop educational campaigns that address these gaps and increase consumer understanding of the benefits of green cosmetics. Companies can use this information to develop educational campaigns that address these gaps and increase consumer understanding of the benefits of using green cosmetics (Jaiswal & Kumar, 2021).
4. **Sustainability efforts:** The study can help companies to align their sustainability efforts with consumer values and preferences. For example, if the study reveals that consumers in Malaysia prioritize eco-friendly packaging, companies can focus their efforts on improving their packaging sustainability. For example, if our study reveals that consumers in Malaysia prioritize eco-friendly packaging, companies can focus their efforts on improving their packaging sustainability to better meet consumer expectations (Yahya et al., 2020).
5. **Benefits for regulators and policy makers:** The findings of this study could significantly assist regulators and policy makers in the cosmetics sector. This research can help shape legislation and policies that are in line with the changing needs of the market by illuminating consumer tastes and values in the context of green cosmetics. For instance, if the study finds that Malaysian consumers place a high priority on eco-friendly packaging, regulators can think about enacting requirements or providing incentives to encourage businesses to use more environmentally friendly packaging techniques. Insights from this study can also help policymakers collaborate with industry stakeholders to make sure that consumers have a source of trustworthy data about the advantages and environmental effects of these products. This will support efforts to increase consumer awareness as well as education regarding green cosmetics. The study's conclusions can essentially be used as a beneficial tool by policymakers to encourage sustainability, consumer protection, and moral behavior in the cosmetics sector.

5.4. Limitations of the study

The current study does not go above its limitations. However, the research's limitations may provide other researchers with ideas for their upcoming work. This study has the following limitations:

1. **Quantitative techniques:** This study used a quantitative approach to acquire its data. Future research can take qualitative techniques into account to learn more about this issue. Qualitative research methods, such as observations or interviews, can be used to better understand the viewpoints and experiences of students (Johnson 2022). For example, quantitative techniques, such as pre and post-tests, may provide information on changes in scores from tests or grades in a recent study assessing the impact of an innovative educational program on students' academic performance (Johnson 2022). These approaches, meanwhile, could not accurately reflect how the programmed has impacted the students' motivation, involvement, or learning processes as they see it in their own minds. Information about students' real-life experiences, perceptions, and behaviors which may not be accurately represented by quantitative data alone can be gained via these qualitative methods.
2. **Limited geographical scope:** The study only focused on consumers in Malaysia. This could limit the generalizability of the study's findings to other populations. To address this limitation and enhance the generalizability of the findings, future research could consider expanding the geographic scope of the study to include multiple cities, regions, or even countries. This could provide a more comprehensive understanding of the intervention's impact across diverse settings and populations, and increase the external validity of the research. For example, a recent study by Smith et al. (2021) expanded the geographic scope of their research on diabetes management interventions to include multiple cities in different countries, allowing for a more robust evaluation of the intervention's effectiveness and applicability in diverse healthcare contexts.
3. **Lack of longitudinal data:** The study only captured the data at a single point in time, which may limit the ability to analyze changes in consumer behavior or preferences over time. Longitudinal data would provide a more comprehensive understanding of how consumer behavior and preferences change in response to external factors, such as the decade after the COVID 19 outbreak.

5.5. Directions for future research

Following are the avenues of future research:

1. **Using alternative research methods:** Future research could consider using qualitative research to supplement the quantitative data collected in the original study. Qualitative research is useful in understanding people's experiences, perspectives, and subjective meanings. This would provide a more in-depth understanding of consumer behavior and preferences for green cosmetics in Malaysia.
2. **Expanding the geographical scope:** Future studies are expanded to include consumers in other countries or regions to compare consumer behavior and preferences across different markets. Future studies must examine consumer behavior in various geographical markets and must carry out this research globally. By doing this, further study may result in more complex practical ramifications for the management of the post COVID 19 consumer buying behavior.
3. **Conducting a longitudinal study:** In future, a longitudinal study could provide a more comprehensive understanding of how consumer behavior and preferences change over time in response to the COVID 19 outbreak. This would allow researchers to analyze the long-term impact of green brand elements on consumer loyalty for green cosmetics in Malaysia.

5.6. Conclusion

This study proposes three conclusions: First, through this study, we found that green brand knowledge, green brand trust and green brand attachment are positively influenced by the consumer perceptions. Second, the study confirms that consumer loyalty has a positive relationship with consumer loyalty. Third, consumer perceptions positively mediate the relationship between green brand elements and consumer loyalty. This study concludes that green brand elements have a positive relationship with the consumer loyalty for green cosmetic products after COVID 19 outbreak in Malaysia. GBK, GBT and GBT shows a significant positive relationship with the consumer perceptions and consumer loyalty. This means that the higher consumers' green brand knowledge, their trust on green brand and high attachment, the positive are their perceptions and the higher their tendencies to loyal towards a green cosmetic brand. It was found that in Malaysia, using this sample during pandemic, consumer still like, use, chose and had higher tendencies to the cosmetic brand which they perceive as "green". Overall, consumer perceived that their green cosmetic brands are attractive and perform better than other cosmetic brands after COVID 19 outbreak. Besides, Malaysian female consumers also perceived that the green brand still meet their

need and expectation and more importantly, they perceived that their preferred brand still conveniently available everywhere. Hence, this is evidence on why green brand elements are statistically significant in explaining brand loyalty.

Appendices

Appendix 1 (A) – Research instrument for data collection i.e. Questionnaire in English

“The impact of green brand elements on consumer loyalty for green cosmetics after COVID 19 outbreak in Malaysia”

(Note: This questionnaire has been dispersed using Qualtrics)

Questionnaire

<i>Sr. No.</i>	<i>Demographics</i>						
1	Age	18 – 25	26 – 35	36 – 45		Over or equal to 46	
2	Profession	Teacher/ trainer	Business professional	Engineer	Doctor	Student	Other
3	Industry	Education/ training /institution	Information technology/ e-commerce	Manufacturi ng industry	Healthcar e	Accountin g/auditing	Others
4	State	East Malaysia		West Malaysia	Other		
5	Do you prefer to buy green cosmetics?			Yes		No	
6	Frequency of green cosmetic purchase	Every month	Quarterly	After 6 months	After 1 year	Any other time	
7	Spending per purchase	100 RM	200 RM	300 RM	400 RM	500 RM or more	

Please answer the following questions from 1 to 5, representing 1 = “strongly disagree”, 2 = “disagree, 3 = “neutral”, 4 = “agree” and 5 = “strongly agree”:

	<i>Green brand knowledge (the accumulated experience of using a product directly or indirectly which results in the recording of brand identity (logo, color, name etc.) in the mind of consumer)</i>					
8	I have heard of the green cosmetic brands					
9	I am aware of environmental related information about green cosmetic brands after COVID 19 outbreak in Malaysia					
10	Green cosmetic brands come to mind when thinking about environmentally friendly cosmetics after COVID 19 outbreak in Malaysia					
11	Green cosmetic brands communicate frequently with me					
12	I know that green cosmetic brands have a good reputation after COVID 19 outbreak in Malaysia					
13	I am aware that green cosmetics brands are beneficial to me after COVID 19 outbreak in Malaysia					
	<i>Green brand trust (willingness to depend on a brand based on the belief or expectation resulting from its credibility, benevolence, and ability about its environmental performance)</i>					
14	After COVID 19 outbreak in Malaysia, I feel that the green cosmetic brands' environmental reputation is reliable					
15	After COVID 19 outbreak in Malaysia, I feel that the environmental performance of green cosmetic brands is dependable					
16	After COVID 19 outbreak in Malaysia, I feel that the green cosmetic brands' environmental claims are trustworthy					
17	After COVID 19 outbreak in Malaysia, green cosmetic brands meet my expectations					
18	After COVID 19 outbreak in Malaysia, green cosmetic brands keep promises for environmental protection					
	<i>Green brand attachment (process of buying green products for gratifying the self and expressing one's concern and positive emotion toward the environment)</i>					

19	After COVID 19 outbreak in Malaysia, eco-friendliness of green cosmetic brands makes me feel strongly passionate towards them					
20	After COVID 19 outbreak in Malaysia, environmental concerns of green cosmetic brands make me feel strongly passionate towards them					
21	After COVID 19 outbreak in Malaysia, I desire green cosmetic brands due to their environmental performance					
22	After COVID 19 outbreak in Malaysia, extraordinary environmental features of green cosmetic brands make me willing to pay for these brands					
23	After COVID 19 outbreak in Malaysia, I have strong association with green cosmetic brands as they are less harmful to natural environment.					
24	After COVID 19 outbreak in Malaysia, I have firm affection for green cosmetic brands					
25	After COVID 19 outbreak in Malaysia, I am emotionally bonded with green cosmetic brands					
26	After COVID 19 outbreak in Malaysia, green cosmetic brands demonstrate my environmental consciousness					
27	After COVID 19 outbreak in Malaysia, I am passionate for green cosmetic brands' ecological functionality.					
28	After COVID 19 outbreak in Malaysia, I will continue my relationship with green cosmetic brands because of their efficient					
29	After COVID 19 outbreak in Malaysia, I have been distressed if production of green cosmetic brands stopped					
	<i>Consumer perceptions (the opinion formed on the basis of interaction and the entire experience provided by the brand)</i>					
30	I think that the green cosmetic brands I use do not harm the environment after COVID 19 outbreak in Malaysia					
31	I consider that wasting the resources of our planet after COVID 19 outbreak could be harmful for us after COVID 19 outbreak in Malaysia					

32	I consider myself an environmentally responsible individual after COVID 19 outbreak in Malaysia					
33	I consider the potential impact of my actions on environment when making my purchase decisions of green cosmetics after COVID 19 outbreak in Malaysia					
34	I believe that it would be beneficial for me to adopt environmentally friendly cosmetics purchase habits after COVID 19 outbreak in Malaysia					
35	I believe that my purchase habits are affected by my concern for the environment after COVID 19 outbreak in Malaysia					
	<i>Consumer loyalty (a positive attitude of the consumer towards the company which lead to repeat purchase conduct)</i>					
36	In the future, I will buy green cosmetics again					
37	I consider green cosmetics as my first choice after COVID 19 outbreak in Malaysia					
38	I will recommend green cosmetics after COVID 19 outbreak in Malaysia to my friends and relatives					
39	I will encourage friends and relatives to buy green cosmetics after COVID 19 outbreak in Malaysia					
40	After COVID 19 outbreak in Malaysia, even when another cosmetic brand is on sale, I will still purchase green cosmetic brands					
41	I prefer green cosmetic brands over the other brands of the same category after COVID 19 outbreak in Malaysia					
42	I am highly satisfied by the performance of green cosmetic brands					
43	I understand the features of green cosmetic brands well enough to evaluate it against conventional cosmetic brands after COVID 19 outbreak in Malaysia					
44	Green cosmetic brands interest me after COVID 19 outbreak in Malaysia					

45	I consider myself to be highly loyal to green cosmetic brands after COVID 19 outbreak in Malaysia					
----	---	--	--	--	--	--

Appendix 1 (B) – Research instrument for data collection i.e. Questionnaire in Malay

“Impak unsur jenama hijau terhadap kesetiaan pelanggan untuk kosmetik (green cosmetic) selepas wabak COVID 19 di Malaysia”

(Nota: Soal selidik ini akan menggunakan perisian Qualtrics)

Soal selidik

<i>Sr. No.</i>	<i>Demografik</i>						
1	Umur	18 – 25	26 – 35	36 – 45	Lebih atau sama dengan 46		
2	Profesion	Guru/ju rlatih	Perniagaan profesional	Jurutera	Doktor	Pelajar	Lain-lain
3		Pendidikan / 128alanan/i nstitusi	Teknologi maklumat/ e-dagang	Industri perkilangan	Penjagaan Industri kesihatan	Perakaunan/pengauditan	Lain-lain
4	Negeri	Malaysia Timur		Malaysia Barat	Lain-lain		
5	Adakah anda lebih suka membeli kosmetik (green cosmetic)			Ya		Tidak	
6	Kekerapan pembelian kosmetik (green cosmetic)	Setiap bulan	Suku Tahun	Selepas 6 bulan	elepas 1 tahun	Pada masa lain	
7	Perbelanjaan setiap pembelian	100 RM	200 RM	300 RM	400 RM	RM 500 RM atau lebih	

Sila jawab soalan berikut dari 1 hingga 5, mewakili 1 = “sangat tidak setuju”, 2 = “tidak setuju, 3 = “neutral”, 4 = “setuju” dan 5 = “sangat setuju”:

	<i>Pengetahuan jenama hijau (pengalaman terkumpul menggunakan produk secara langsung atau tidak langsung yang mengakibatkan perekodan 129 alinan 129 jenama (logo, warna, nama dll.) dalam fikiran pengguna)</i>					
8	Saya pernah mendengar tentang jenama kosmetik (green cosmetics)					
9	Saya mengetahui maklumat berkaitan alam sekitar tentang jenama kosmetik (green cosmetics) selepas wabak COVID 19 di Malaysia					
10	Jenama kosmetik (green cosmetics) terlintas di fikiran apabila memikirkan tentang kosmetik (green cosmetics) mesra alam selepas wabak COVID 19 di Malaysia					
11	Jenama Kosmetik (green cosmetic) sentiasa berada difikiran saya					
12	Saya tahu bahawa jenama kosmetik (green cosmetics) mempunyai reputasi yang baik selepas wabak COVID 19 di Malaysia					
13	Saya sedar bahawa jenama kosmetik (green cosmetics) memberi manfaat kepada saya selepas wabak COVID 19 di Malaysia					
	<i>Kepercayaan jenama hijau (kesediaan untuk bergantung pada jenama berdasarkan kepercayaan atau jangkaan yang terhasil daripada kredibiliti, kebaikan dan keupayaannya tentang prestasi persekitarannya)</i>					
14	Saya boleh bergantung kepada jenama kosmetik (green cosmetics) ini Selepas wabak COVID 19 di Malaysia,					
15	Selepas wabak COVID 19 di Malaysia, saya merasakan prestasi alam sekitar jenama kosmetik (green cosmetics) boleh dipercayai					
16	Selepas wabak COVID 19 di Malaysia, saya merasakan bahawa tuntutan alam sekitar jenama kosmetik (green cosmetics) boleh dipercayai					
17	Selepas wabak COVID 19 di Malaysia, jenama kosmetik (green cosmetics) memenuhi jangkaan saya					

18	Selepas wabak COVID 19 di Malaysia, jenama kosmetik (green cosmetics) menepati janji untuk perlindungan alam sekitar					
<i>Keterikatan jenama hijau (proses membeli produk hijau untuk memuaskan hati diri sendiri dan menyatakan kebimbangan dan emosi positif seseorang terhadap alam sekitar)</i>						
19	Selepas wabak COVID 19 di Malaysia, jenama kosmetik (green cosmetics) yang mesra alam membuatkan saya teruja untuk menggunakan jenama ini					
20	Selepas wabak COVID 19 di Malaysia, kebimbangan alam sekitar terhadap jenama kosmetik (green cosmetics) membuatkan saya berasa lebih yakin terhadap jenama ini					
21	Selepas wabak COVID 19 di Malaysia, saya inginkan jenama kosmetik (green cosmetics) kerana prestasi alam sekitar mereka					
22	Selepas wabak COVID 19 di Malaysia, ciri persekitaran luar biasa jenama kosmetik (green cosmetics) membuatkan saya sanggup membayar untuk jenama ini					
23	Selepas wabak COVID 19 di Malaysia, saya mempunyai perkaitan yang kukuh dengan jenama kosmetik (green cosmetics) kerana ia kurang berbahaya kepada alam sekitar.					
24	Selepas wabak COVID 19 di Malaysia, saya lebih menyukai jenama kosmetik (green cosmetics)					
25	Selepas wabak COVID 19 di Malaysia, saya terikat secara emosi dengan jenama kosmetik (green cosmetics)					
26	Selepas wabak COVID 19 di Malaysia, jenama kosmetik (green cosmetics) menunjukkan kesedaran alam sekitar saya					
27	Selepas wabak COVID 19 di Malaysia, saya sangat berminat dengan fungsi ekologi jenama kosmetik (green cosmetics).					
28	Selepas wabak COVID 19 di Malaysia, saya akan meneruskan penggunaan jenama kosmetik (green cosmetics) kerana kebaikan jenama ini					

29	Selepas wabak COVID 19 di Malaysia, saya akan berasa tertekan jika pengeluaran jenama kosmetik (green cosmetics) dihentikan					
<i>Persepsi pengguna (pendapat yang terbentuk dalam interaksi mithe dibentuk berdasarkan interaksi dan keseluruhan pengalaman yang disediakan oleh jenama)</i>						
30	Saya berpendapat bahawa jenama kosmetik (green cosmetics) yang saya gunakan tidak membahayakan alam sekitar selepas wabak COVID 19 di Malaysia					
31	Saya menganggap bahawa pembaziran sumber planet kita selepas wabak COVID 19 boleh memudaratkan kita selepas wabak COVID 19 di Malaysia					
32	Saya menganggap diri saya bertanggung jawab terhadap kebersihan alam sekitar selepas wabak Covid 19 di Malaysia					
33	Saya menganggap potensi kesan 131alinalin131 saya terhadap alam sekitar apabila membuat keputusan pembelian kosmetik (green cosmetics) selepas wabak COVID 19 di Malaysia					
34	Saya percaya bahawa adalah berfaedah untuk saya mengamalkan tabiat pembelian kosmetik (green cosmetics) mesra alam selepas wabak COVID 19 di Malaysia					
35	Saya percaya tabiat pembelian saya dipengaruhi oleh keprihatinan saya terhadap alam sekitar selepas wabak COVID 19 di Malaysia					
<i>Kesetiaan pengguna (sikap positif pelanggan terhadap syarikat yang membawa kepada tingkah laku pembelian berulang)</i>						
36	Pada masa akan 131alina, saya akan membeli kosmetik (green cosmetics) lagi					
37	Saya akan memilih kosmetik (green cosmetics) sebagai pilihan pertama saya selepas wabak COVID 19 di Malaysia					
38	Saya akan mengesyorkan jenama kosmetik (green cosmetics) kepada saudara mara dan rakan saya selepas wabak COVID 19 di Malaysia					
39	Saya menggalakkan rakan dan saudara mara untuk membeli kosmetik (green cosmetics) selepas wabak COVID 19 di Malaysia					

40	Selepas wabak COVID 19 di Malaysia, walaupun jenama kosmetik lain sedang dijual, saya tetap akan membeli jenama kosmetik (green cosmetics)					
41	Saya lebih suka jenama kosmetik (green cosmetics) berbanding jenama lain dalam kategori yang sama selepas wabak COVID 19 di Malaysia					
42	Saya sangat berpuas hati dengan prestasi jenama kosmetik (green cosmetics)					
43	Saya memahami ciri-ciri jenama kosmetik (green cosmetics) dengan cukup baik untuk menilainya berbanding jenama kosmetik (green cosmetics) konvensional selepas wabak COVID 19 di Malaysia					
44	Jenama kosmetik (green cosmetics) menarik minat saya selepas wabak COVID 19 di Malaysia					
45	Saya menganggap diri saya sangat setia kepada jenama kosmetik (green cosmetics) selepas wabak COVID 19 di Malaysia					

Appendix 2 (A) – Recruitment Material – Text to be posted on social media to acquire participants (English)

Hi,

“My name is **Jaweria Iqbal**, and I am a/an **Mphil student** at **Curtin University**. I am conducting an academic research on the topic entitled “*The impact of green brand elements on consumer loyalty for green cosmetics after COVID 19 outbreak in Malaysia*”. Curtin University Human Research Ethics Committee (HREC) has approved this study (HRE2022-0280). This is a student project and I am interested in learning more about your purchase behaviour and loyalty towards green cosmetic brands after the outbreak of COVID 19 in Malaysia. Since you have been a buyer of green/organic/environmental-friendly products lately, I humbly invite you to participate in this study. The benefit of this research is that you have been helping us to understand the impact of green brand elements on consumer loyalty for green cosmetics after COVID 19 outbreak in Malaysia. This will take approximately **15 minutes** of your time. If you wish to participate, please get back to me so that I could send you the further research material.”

Thank you.

Jaweria Iqbal

Email: jaweria@postgrad.curtin.edu.my

Tel: +92 334 3470777

[Appendix 2 \(B\) – Recruitment Material – Text to be posted on social media to acquire participants \(Malay\)](#)

(Teks untuk disiarkan di media 133alina untuk memperolehi persetujuan responden)

Hai,

“Nama saya Jaweria Iqbal, dan saya seorang pelajar Mphil di Curtin University Malaysia. Saya sedang menjalankan penyelidikan akademik mengenai topik bertajuk “Impak elemen jenama hijau terhadap kesetiaan pelanggan untuk kosmetik (green cosmetics) selepas wabak COVID 19 di Malaysia”. Jawatankuasa Etika Penyelidikan Manusia Universiti Curtin (HREC) telah meluluskan kajian ini (HRE2022-0280). Ini adalah projek pelajar dan saya berminat untuk mengetahui lebih lanjut tentang tingkah laku pembelian dan kesetiaan anda terhadap jenama kosmetik selepas wabak COVID 19 di Malaysia. Memandangkan anda telah menjadi pembeli produk hijau/133alinalin/mesra alam kebelakangan ini, saya ingin menjemput anda untuk menyertai kajian ini. Hasil penyelidikan ini akan membantu kami memahami kesan elemen jenama hijau terhadap kesetiaan pelanggan bagi jenama kosmetik selepas wabak COVID 19 di Malaysia. Kajian ini akan mengambil kira-kira 15 minit masa anda. Jika anda ingin mengambil bahagian, sila hubungi saya semula supaya saya boleh menghantar bahan kajian lanjut kepada anda.”

Terima kasih.

Jawaria Iqbal

E-mel: jaweria@postgrad.curtin.edu.my

Tel: +92 334 3470777

Appendix 2 I – Participant information sheet (English)

Dear Participant,

I am inviting you to participate in a research study entitled “*The impact of green brand elements on consumer loyalty for green cosmetics after COVID 19 outbreak in Malaysia*”. You are selected to participate in this survey because you have been a buyer of green/organic/environmental-friendly products lately. This is a student project and a low risk study. Your participation will only be recorded and used for academic purposes. Involvement in the study is voluntary, so you may choose to participate or not. The benefit of this research is that you have been helping us to understand the impact of green brand elements on consumer loyalty for green cosmetics after COVID 19 outbreak in Malaysia. If you do not wish to continue, you have the right to withdraw from the study, without penalty, at any time. I am now going to explain the study to you.”

“This will take approximately *15 minutes* of your time. All information have been kept *anonymous and confidential*. For anonymous, this means that your name will not appear anywhere and for confidential, I will assign a number to your responses. In any articles I write or any presentations that I make, if needed, I will only use a made-up name for you, and I will not reveal details or I will change details about where you work, where you live, any personal information about you, and so forth. There may be no direct benefit to you from participating in this research, you hope you could respond all the questions in this survey and give the most accurate views based on your opinions, perceptions and experiences. There is no right or wrong answer. Apart from giving up your time, I do not expect that there have been any other risks or inconveniences associated with taking part in this study. The information collected have been kept for 7 years after the completion of the research according to the research and development policies of Curtin University.”

Curtin University Human Research Ethics Committee (HREC) has approved this study (HRE2022-0280). Should you wish to discuss the study with someone not directly involved, in

particular, any matters concerning the conduct of the study or your rights as a participant, or you wish to make a confidential complaint, you may contact the Ethics Officer on +618 9266 9223 or the Manager, Research Integrity on +618 9266 7093 or email hrec@curtin.edu.au. If you decide to take part in this research I will ask you to sign the consent form. By signing it is telling me that you understand what you have read and what has been discussed. Signing the consent indicates that you agree to be in the research project. Please take your time and ask any questions you have before you decide what to do. You have been given a copy of this information and the consent form to keep.

Thank you for your cooperation and valuable time.

Jaweria Iqbal

Email: jaweria@postgrad.curtin.edu.my

Tel: +92 334 3470777

[Appendix 2 \(D\) – Participant information sheet \(Malay\)](#)

Responden yang dihormati,

Saya ingin menjemput anda untuk mengambil bahagian dalam kajian penyelidikan bertajuk "Impak elemen jenama hijau terhadap kesetiaan pelanggan untuk kosmetik (green cosmetics) selepas wabak COVID 19 di Malay"ia". Anda dipilih untuk menyertai kaji selidik ini kerana anda ada lah antara pembeli produk hij135alinannik/mesra alam kebelakangan ini.

Projek ini merupakan projek pelajar dan kajiannya berisiko rendah. Penyertaan anda hanya akan direkodkan dan digunakan untuk tujuan akademik. Penglibatan anda dalam kajian ini adalah secara sukarela, oleh itu anda boleh memilih untuk mengambil bahagian atau tidak. Penyelidikan ini akan membantu kami memahami kesan elemen jenama hijau terhadap kesetiaan pelanggan bagi produk kosmetik selepas wabak COVID 19 di Malaysia. Anda mempunyai hak untuk menarik diri daripada kaji selidik ini, tan135alinanlti, pada bila-bila masa. Kaji selidik ini akan mengambil kira-kira 15 minit masa anda. Semua maklumat akan dirahsiakan. Nama anda tidak akan muncul di mana-mana penerbitan kajian ini. Anda akan diberi nombor sebagai menggantikan nama anda.

Dalam mana-mana artikel yang saya tulis atau sebarang pembentangan saya, jika perlu, saya hanya akan menggunakan nama rekaan untuk anda, dan saya tidak akan mendedahkan butiran atau saya akan menukar butiran tentang tempat anda bekerja, tempat tinggal anda, sebarang maklumat peribadi tentang anda, dan sebagainya.

Adalah diharapkan anda dapat menjawab semua soalan dalam kajiselidik ini dan memberikan pandangan yang paling tepat berdasarkan pendapat, persepsi dan pengalaman anda.

Tiada jawapan yang betul atau salah. Maklumat yang dikumpul akan disimpan selama 7 tahun selepas selesai penyelidikan mengikut dasar penyelidikan dan pembangunan Universiti Curtin.”

Jawatankuasa Etika Penyelidikan Manusia Universiti Curtin (HREC) telah meluluskan kajian ini (HRE2022-0280). Sekiranya anda ingin membincangkan kajian dengan seseorang yang tidak terlibat secara langsung, khususnya, apa-apa perkara berkaitan pengendalian kajian atau hak anda sebagai peserta, atau anda ingin membuat aduan sulit, anda boleh menghubungi Pegawai Etika di +618 9266 9223 atau Pengurus, Integriti Penyelidikan di +618 9266 7093 atau e-mel hrec@curtin.edu.au.

Jika anda mengambil keputusan untuk mengambil bahagian dalam penyelidikan ini, saya akan meminta anda menandatangani kebenaran. Dengan menandatangani kebenaran, ia bermaksud anda memahami perkara yang telah dibincangkan.

Menandatangani kebenaran menunjukkan bahawa anda bersetuju untuk menyertai projek kajiselidik ini. Anda akan diberikan maklumat ini dan kebenaran untuk disimpan.

Terima kasih atas masa dan tenaga yang berharga.

Jawaria Iqbal

E-mel: jaweria@postgrad.curtin.edu.my

Tel: +92 334 3470777

Appendix 2 (E) – Consent Form (English)

CONSENT FORM

HREC Project Number:	HRE2022-0280
Project Title:	“The impact of green brand elements on consumer loyalty for green cosmetics after COVID 19 outbreak in Malaysia”.
Chief Investigator:	Dr. Shamsul Kamariah Bt. Abdullah
Student researcher:	1
Version Number:	1
Version Date:	03-June-2021

- I have read, the information statement version listed above and I understand its contents.
- I believe I understand the purpose, extent and possible risks of my involvement in this project.
- I voluntarily consent to take part in this research project.
- I have had an opportunity to ask questions and I am satisfied with the answers I have received.
- I understand that this project has been approved by Curtin University Human Research Ethics Committee and have been carried out in line with the National Statement on Ethical Conduct in Human Research (2007).
- I understand I will receive a copy of this Information Statement and Consent Form.
- I understand that the phone conversation have been audio recorded.

Participant Name	
Participant consent blurb/check box	
Date	

Declaration by researcher: I have supplied an Information Letter and Consent Form to the participant who has signed above.

Researcher Name	Jaweria Iqbal
Researcher consent blurb/check box	
Date	13 April 2022

Note: All parties must tick the consent blurb/checkbox of the Consent Form.

(This form have been translated to Qualtrics for pilot test and actual data collection.)

Appendix 2 (F) – Consent Form (Malay)

BORANG PERSETUJUAN

Nombor Projek HREC:	HRE2022-0280
----------------------------	--------------

Tajuk Proje“:	"Impak elemen jenama hijau terhadap kesetiaan pelanggan untuk kosmetik (green cosmetics) selepas wabak COVID 19 di Malay”ia".
Ketua Penyelidik	Associate Professor Dr. Shamsul Kamariah Bt. Abdullah
Pelajar:	1
Nombor Versi:	1
Tarikh Versi:	03-June-2021

- Saya telah membaca, versi pernyataan maklumat yang disenaraikan di atas dan saya faham kandungannya.
- Saya memahami tujuan, tahap dan kemungkinan risiko penglibatan saya dalam projek ini.
- Saya secara sukarela bersetuju untuk mengambil bahagian dalam projek penyelidikan ini.
- Saya mempunyai peluang untuk bertanya soalan dan saya berpuas hati dengan jawapan yang saya terima.
- Saya faham bahawa projek ini telah diluluskan oleh Jawatankuasa Etika Penyelidikan Manusia Universiti Curtin dan akan dilaksanakan selaras dengan Pernyataan Kebangsaan mengenai Tingkah Laku Beretika dalam Penyelidikan Manusia (2007).
- Saya faham saya akan meneri139alinannan Penyata Maklumat dan Borang Persetujuan ini.
- Saya faham bahawa perbualan telefon akan dirakam audio.

Nama Peserta	
Kotak blurb/tanda kebenaran peserta	
Tarikh	

Pengisytiharan oleh penyelidik: Saya telah membekalkan Surat Maklumat dan Borang Kebenaran kepada peserta yang telah menandatangani di atas.

Nama Penyelidik	Jaweria Iqbal
Kotak blurb/tanda kebenaran penyelidik	
Tarikh	13 April 2022

Nota: Semua pihak mesti menandakan blurb persetujuan/kotak semak Borang Persetujuan.

(Borang ini akan diterjemahkan kepada Qualtrics untuk ujian rintis dan pengumpulan data sebenar.)

Appendix 2 (F) – Questionnaire for actual study (with amendments)

“The impact of green brand elements on consumer loyalty for green cosmetics after COVID 19 outbreak in Malaysia”

(Note: This questionnaire have been dispersed using Qualtrics)

Colour code:

Green – new questions added

Red – removed

Black – no language change

Blue – old language of question

Purple – new language of question

Questionnaire

Screening questions			
Please specify your gender		Male	Female
Have you purchased green cosmetics in the past 2 years time?		Yes	No

**skip logic to the end of questionnaire if “male” or “no” is selected*

Sr. No.	Demographics									
1	Age	18 – 25		–6 – 35		36 - 45			Over or equal to 46	
2	Profession	Teacher/trainer	Business professional		Engineer	Doctor	Student		Other	
3	Industry	Education/training/institution		Information technology/e-commerce		Manufacturing industry		Healthcare	Accounting/auditing	Others
	Income level	Less than 1000 RM		1000-2000		2000-3000		3000-4000	4000-5000	5000 or above
4	State	Johor	Sarawak	Sabah	Kuala Lumpur	Perlis	Kedah	Kelantan	Labuan	
		Malacca	Negeri Sembilan	Pahang	Penang	Pera k	Selangor	Terengganu	Putrajaya	
5	Do you prefer to buy green cosmetics?				Yes			No		
6	Frequency of green cosmetic purchase	Every month		Quarterly	After 6 months	After 1 year		Any other time		
7	Spending per purchase	100 RM		200 RM	300 RM	400 RM		500 RM or more		

Please answer the following questions from 1 to 5, representing 1 = “strongly disagree”, 2 = “disagree, 3 = “neutral”, 4 = “agree” and 5 = “strongly agree”:

	<i>Green brand knowledge (the accumulated experience of using a product directly or indirectly which results in the recording of brand identity (logo, color, name etc.) in the mind of consumer)</i>				
8	I have heard of the green cosmetic brands				
9	I am aware of environmental related information about green cosmetic brands after COVID 19 outbreak in Malaysia				
10	Green cosmetic brands come to mind when thinking about environmentally friendly cosmetics after COVID 19 outbreak in Malaysia	I consider green cosmetic brands environment friendly after COVID 19 outbreak in Malaysia			
11	Green cosmetic brands communicate frequently with me	I observe that green cosmetic brands advertise themselves frequently to communicate with the consumer after COVID 19 outbreak in Malaysia			
12	I know that green cosmetic brands have a good reputation after COVID 19 outbreak in Malaysia				
13	I am aware that green cosmetics brands are beneficial to me after COVID 19 outbreak in Malaysia	I reckon that green cosmetic brands are beneficial for my health after COVID 19 outbreak in Malaysia			
	<i>Green brand trust (willingness to depend on a brand based on the belief or expectation resulting from its credibility, benevolence, and ability about its environmental performance)</i>				
14	After COVID 19 outbreak in Malaysia, I feel that the green cosmetic brands' environmental reputation is reliable	I believe that the environmental reputation of green cosmetic brands is reliable after COVID 19 outbreak in Malaysia			
15	After COVID 19 outbreak in Malaysia, I feel that the	I second that the environmental performance of green cosmetic			

	environmental performance of green cosmetic brands is dependable	brands is dependable after COVID 19 outbreak in Malaysia					
16	After COVID 19 outbreak in Malaysia, I feel that the green cosmetic brands' environmental claims are trustworthy	I am confident that the environmental claims of green cosmetic brands are trustworthy after COVID 19 outbreak in Malaysia					
17	After COVID 19 outbreak in Malaysia, green cosmetic brands meet my expectations	Green cosmetic brands meet my expectations after COVID 19 outbreak in Malaysia					
18	After COVID 19 outbreak in Malaysia, green cosmetic brands keep promises for environmental protection	I assure that green cosmetic brands keep promises for environmental protection after COVID 19 outbreak in Malaysia					
<i>Green brand attachment (process of buying green products for gratifying the self and expressing one's concern and positive emotion toward the environment)</i>							
19	After COVID 19 outbreak in Malaysia, eco-friendliness of green cosmetic brands makes me feel strongly passionate towards them	I am impassioned about the eco-friendliness of green cosmetic brands after COVID 19 outbreak in Malaysia					
20	After COVID 19 outbreak in Malaysia, environmental concerns of green cosmetic brands make me feel strongly passionate towards them	I am interested in green cosmetic brands due to their environmental concerns after COVID 19 outbreak in Malaysia					
21	After COVID 19 outbreak in Malaysia, I desire green cosmetic brands due to their environmental performance	I desire green cosmetic brands due to their environmental performance after COVID 19 outbreak in Malaysia					

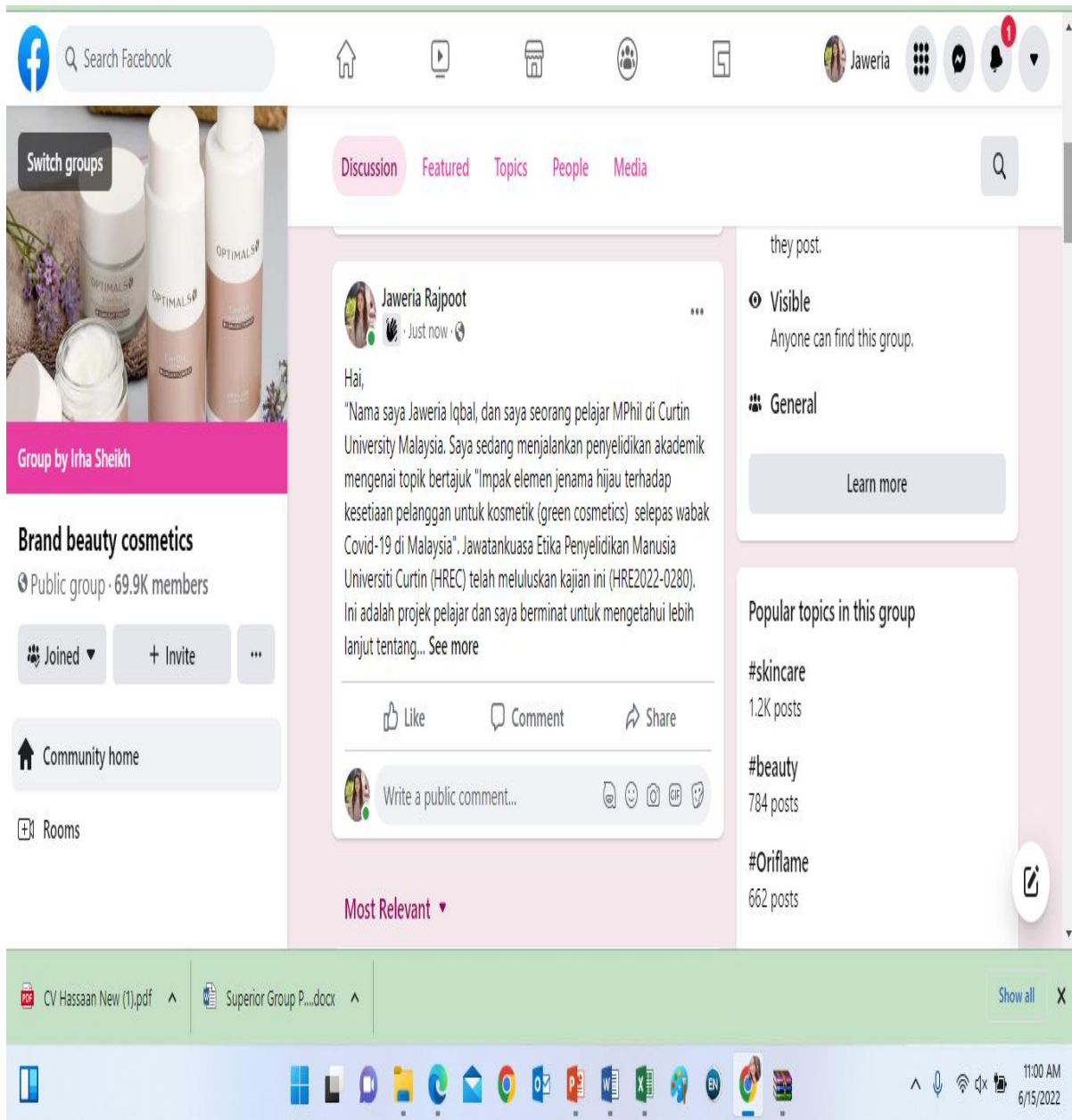
22	After COVID 19 outbreak in Malaysia, extraordinary environmental features of green cosmetic brands make me willing to pay for these brands	I am willing to pay for green cosmetic brands due to their extraordinary environmental features after COVID 19 outbreak in Malaysia					
23	After COVID 19 outbreak in Malaysia, I have strong association with green cosmetic brands as they are less harmful to natural environment.	I have strong association with green cosmetic brands as they are less harmful to natural environment after COVID 19 outbreak in Malaysia					
24	After COVID 19 outbreak in Malaysia, I have firm affection for green cosmetic brands	I have a firm affection towards green cosmetic brands after COVID 19 outbreak in Malaysia					
25	After COVID 19 outbreak in Malaysia, I am emotionally bonded with green cosmetic brands	I am emotionally bonded with green cosmetic brands after COVID 19 outbreak in Malaysia					
26	After COVID 19 outbreak in Malaysia, green cosmetic brands demonstrate my environmental consciousness	I feel green cosmetic brands demonstrate my environmental consciousness after COVID 19 outbreak in Malaysia					
27	After COVID 19 outbreak in Malaysia, I am passionate for green cosmetic brands' ecological functionality.	I feel positive towards the ecological functionality of green cosmetic brands after COVID 19 outbreak in Malaysia					
28	After COVID 19 outbreak in Malaysia, I will continue my relationship with green cosmetic brands because of their efficient	I will continue my relationship with green cosmetic brands because of their efficiency after COVID 19 outbreak in Malaysia					

29	After COVID 19 outbreak in Malaysia, I have been distressed if production of green cosmetic brands stopped	I will be happy because of the production of green cosmetic brands in future					
<i>Consumer perceptions (the opinion formed on the basis of interaction and the entire experience provided by the brand)</i>							
30	I think that the green cosmetic brands I use do not harm the environment after COVID 19 outbreak in Malaysia						
31	I consider that wasting the resources of our planet after COVID 19 outbreak could be harmful for us after COVID 19 outbreak in Malaysia	I consider that consuming green cosmetic brands will help saving the resources of our planet after COVID 19 outbreak in Malaysia					
32	I consider myself an environmentally responsible individual after COVID 19 outbreak in Malaysia	By consuming green cosmetic brands after COVID 19 outbreak in Malaysia, I find myself an environmentally responsible individual					
33	I consider the potential impact of my actions on environment when making my purchase decisions of green cosmetics after COVID 19 outbreak in Malaysia	I understand that there is a positive impact of my consumption of green cosmetics on environment after COVID 19 outbreak in Malaysia					
34	I believe that it would be beneficial for me to adopt environmentally friendly cosmetics purchase habits after COVID 19 outbreak in Malaysia	I believe that it would be beneficial for my health to adopt green cosmetics purchase habits after COVID 19 outbreak in Malaysia					
35	I believe that my purchase habits are affected by my concern for the environment after COVID 19 outbreak in Malaysia						

<i>Consumer loyalty (a positive attitude of the consumer towards the company which lead to repeat purchase conduct)</i>					
36	In the future, I will buy green cosmetics again				
37	I consider green cosmetics as my first choice after COVID 19 outbreak in Malaysia				
38	I will recommend green cosmetics after COVID 19 outbreak in Malaysia to my friends and relatives				
39	I will encourage friends and relatives to buy green cosmetics after COVID 19 outbreak in Malaysia				
40	After COVID 19 outbreak in Malaysia, even when another cosmetic brand is on sale, I will still purchase green cosmetic brands	Even when a conventional cosmetic brand is on sale, I will still purchase green cosmetic brands			
41	I prefer green cosmetic brands over the other brands of the same category after COVID 19 outbreak in Malaysia				
42	I am highly satisfied by the performance of green cosmetic brands	I am satisfied by the overall value provided by green cosmetic brands after COVID 19 outbreak in Malaysia			
43	I understand the features of green cosmetic brands well enough to evaluate it against conventional cosmetic brands after COVID 19 outbreak in Malaysia	I rely on green cosmetics brand due to their environmental features after COVID 19 outbreak in Malaysia			
44	Green cosmetic brands interest me after COVID 19 outbreak in Malaysia	I find green cosmetic brands interesting after COVID 19 outbreak in Malaysia			
45	I consider myself to be highly loyal to green cosmetic brands	I consider myself to be loyal to green cosmetic brands after COVID 19 outbreak in Malaysia			

after COVID 19 outbreak in Malaysia						
-------------------------------------	--	--	--	--	--	--

Appendix 3 – Recruitment process



The image shows a screenshot of a Facebook profile for 'Twenty.skincare' and a Windows taskbar at the bottom. The Facebook profile includes a navigation bar with icons for home, video, shop, friends, and messages, and a user profile picture for 'Jaweria'. The profile header features a circular logo with 'TWENTY' and the name 'Twenty.skincare' with the tagline 'Beauty, cosmetic & personal care'. A blue 'WhatsApp' button is visible. Below the header are tabs for 'Home', 'Reviews', 'Photos', 'Videos', and 'More'. Action buttons for 'Like', 'Message', and search are present. The 'About' section shows a map location: 'B-02-08 BLOCK B PUSAT KOMERSIAL SOUTHGATE NO.2 JALAN DUA 55200 Kuala Lumpur, Malaysia'. A 'Create post' section offers options for 'Photo/video', 'Check in', and 'Tag friends'. A post by 'Jaweria Rajpoot' is visible, starting with 'Hai,' and discussing an MPhil research project on green cosmetics. The Windows taskbar at the bottom shows an open document 'Superior Group P....docx' and various application icons including Windows, File Explorer, Edge, Mail, Chrome, Outlook, PowerPoint, Word, Excel, and a browser with a Google search bar.

TWENTY

Twenty.skincare

Beauty, cosmetic & personal care

WhatsApp

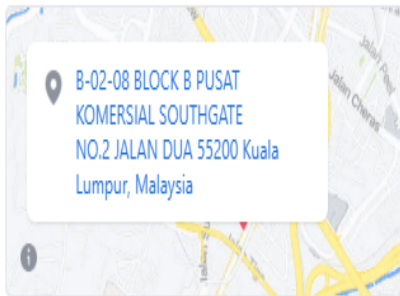
Home Reviews Photos Videos More

Like

Message

About

See all



Ready,let's glow !

Skincare

783 people like this

Create post

Photo/video

Check in

Tag friends

Jaweria Rajpoot Twenty.skincare

Just now

Hai,

"Nama saya Jaweria Iqbal, dan saya seorang pelajar MPhil di Curtin University Malaysia. Saya sedang menjalankan penyelidikan akademik mengenai topik bertajuk "Impak elemen jenama hijau terhadap kesetiaan pelanggan untuk kosmetik (green cosmetics) selepas wabak Covid-19 di Malaysia". Jawatankuasa Etika Penyelidikan Manusia Universiti Curtin (HREC) telah meluluskan kajian ini (HRE2022-0280). Ini adalah projek pelajar dan saya berminat untuk mengetahui lebih lanjut tentang... See more

Superior Group P....docx



The image shows a Facebook page for 'Kamill Malaysia'. At the top, there are navigation icons for home, video, shop, community, and a profile picture of 'Jaweria'. Below this is a banner featuring several award logos (Handgeplagte Marke 2012 bis 2019 in Deutschland, MARKE, VEGAN, BIO Kamille) and the 'Kamill' logo. The profile name is 'Kamill Malaysia' with the handle '@kamillmalaysia · Health/beauty'. A blue button says 'Shop on Website' with the URL 'kamill.com.my' below it. Navigation tabs include 'Home', 'Reviews', 'Photos', 'Community', and 'More'. Action buttons for 'Like', 'Message', and search are visible. On the left, an 'Ask Kamill Malaysia' section lists questions like 'How much do your products or services cost?' and 'Can you tell me more about your business?'. The main post area shows a 'Create post' box and a post by 'Jaweria Rajpoot' who is a student at Curtin University Malaysia. The bottom of the image shows a Windows taskbar with various application icons and a file named 'Superior Group P....docx' open.

 Persona Kosmetik PK











Other posts


Jaweria Rajpoot Persona Kosmetik PK
 Just now

Hai,
 "Nama saya Jaweria Iqbal, dan saya seorang pelajar MPhil di Curtin University Malaysia. Saya sedang menjalankan penyelidikan akademik mengenai topik bertajuk "Impak elemen jenama hijau terhadap kesetiaan pelanggan untuk kosmetik (green cosmetics) selepas wabak Covid-19 di Malaysia". Jawatankuasa Etika Penyelidikan Manusia Universiti Curtin (HREC) telah meluluskan kajian ini (HRE2022-0280). Ini adalah projek pelajar dan saya berminat untuk mengetahui lebih lanjut tentang...
 See more

 Like
  Comment
  Share


 Write a comment...


Persona Kosmetik PK
 June 6 at 11:45 AM

May His Majesty be blessed with good health and glorious years in reigning this country. Happy Agong Birthday 2022!
[#agongbirthday2022](#) [#personakosmetik](#) [#bionexus](#) [#skincareproducts](#)
[#halalskincaremalaysia](#)

Videos See all

Topic : Why your image matters? IMPROVE YOU...

Superior Group P...docx ^

Appendix 4 - References

- A. D. Kyada, B. H. Kale, Jwala Pranati, G. M. Patel, D. P. Patel. 2021. "Genetic variability, character association and path coefficient analysis in determinate F5 progenies of Indian bean [Lablab purpureus (L.) Sweet]." *Electric Journal of Plant Breeding*.
- Acharya, Suprava. 2021. "CORRELATION AND PATH COEFFICIENT ANALYSIS OF YIELD IN WHEAT: A REVIEW." *ResearchGate*.
- Agus Purwanto, Masduki Asbari. 2021. "Analisis Data Penelitian Marketing: Perbandingan Hasil antara Amos, SmartPLS, WarpPLS, dan SPSS Untuk Jumlah Sampel Besar." *Journal of Industrial Engineering & Management Research*.
- Agus Purwanto, Masduki Asbari, Teguh Iman Santoso. 2021. "Education Research Quantitative Analysis for Little Respondents: Comparing of Lisrel, Tetrad, GSCA, Amos, SmartPLS, WarpPLS, and SPSS." *Jurnal Studi Guru dan Pembelajaran*.
- Anil BERA, Osman DOĞAN. 2022. "Distribution of test statistics under parameter uncertainty for time series data: an application to testing skewness, kurtosis and normality." *Hacettepe Journal of Mathematics and Statistics*.
- Asyraf Afthanorhan, Puspa Liza Ghazali and Norfadzilah Rashid. 2020. "Discriminant Validity: A Comparison of CBSEM and Consistent PLS using Fornell & Larcker and HTMT Approaches." *Journal of Physics: Conference Series*.
- Chia-Wei Fan, Cheng-Fang Yen. 2021. "Extended theory of planned behavior in explaining the intention to COVID-19 vaccination uptake among mainland Chinese university students: an online survey study." *Journal of Human Vaccines & Immunotherapeutics* .
- DEMİR, Süleyman. 2021. "Comparison of Normality Tests in Terms of Sample Sizes under Different Skewness and Kurtosis Coefficients." *International Journal of Assessment Tools in Education*.
- Dewi Wulandari, Sutrisno Sutrisno. 2021. "Mardia's Skewness and Kurtosis for Assessing Normality Assumption in Multivariate Regression." *International Journal of Applied Statistics and Data Science*.

- Dyulgerov, Nikolay. 2021. "Variability, Correlation, and Path Coefficient Analysis of Grain Yield and Yield-Related Traits of Facultative Barley Accessions Grown Under Rainfed Conditions ." *International Journal of Innovative Approaches in Agricultural Research*.
- Edson Muresherwa, Loyiso C. Jita. 2021. "The Value of a Pilot Study in Educational Research Learning: In Search of a Good Theory-Method Fit." *Journal of Educational and Social Research*.
- Ellen Roemer, Florian Schuberth, Jörg Henseler. 2021. "HTMT2—an improved criterion for assessing discriminant validity in structural equation modeling." *Industrial Management & Data Systems*.
- Eri Kurita, Takashi Seo. 2021. "Multivariate normality test based on kurtosis with two-step monotone missing data." *Journal of Multivariate Analysis*.
- Florian Kock, Adiyukh Berbekova. 2021. "Understanding and managing the threat of common method bias: Detection, prevention and control." *Journal of Tourism Management*.
- Garyfalia Charitaki, Spyridon – Georgios Soulis. 2021. "Factor structure of early numeracy: evaluation of a measurement model in greek-speaking children with intellectual disabilities." *International Journal of Developmental Disabilities* .
- Giulia Landi, Kenneth I. Pakenham, Elisabetta Crocetti. 2021. "The Multidimensional Psychological Flexibility Inventory (MPFI): Discriminant validity of psychological flexibility with distress." *Journal of Contextual Behavioral Science*.
- Hilkenmeier, Frederic. 2020. "Assessing Distinctiveness in Multidimensional Instruments Without Access to Raw Data – A Manifest Fornell-Larcker Criterion." *Journal of Quantitative Psychology and Measurement*.
- Hussain, Dr. Talib. 2021. "CONTRIBUTING AGENTS FOR FOREST MANAGEMENT OF RURAL AREAS- AN ANALYSIS THROUGH SMART PLS METHODS." *Journal of Business Strategies*.
- Isnain, Auliya Rahman, Rahmat Dedi Gunawan, Agung Deni Wahyudi, Suaidah, and Dina Caesar Yani. 2021. "Analysis of The Effect of Promotion an Technology Acceptance Model on Purchase Interest in Tokopedia." *2021 International Conference on Computer Science, Information Technology, and Electrical Engineering*.
- Jr., Joseph F. Hair. 2021. "Data, measurement, and causal inferences in machine learning: opportunities and challenges for marketing." *Journal of Marketing Theory and Practice* .

- K. Bhargava, D. Shivani, SNCVL Pushpavalli, R. M. Sundaram, P. Beulah and P. Senguttuvel. 2021. "Genetic variability, correlation and path coefficient analysis in segregating population of rice." *Electronic Journal of Plant Breeding*.
- Kim, Do Yuon. 2021. "Trust me, trust me not: A nuanced view of influencer marketing on social media." *Journal of Business Research*.
- Kurniawan, Safar Dwi. 2021. "Analysis of the Balance Between Life and Flexible Work Time During the Covid-19 Pandemic Using SMART-PLS." *Journal of Research in Computer Science and Technology*.
- Lisa J. Jobst, Christoph Heine. 2021. "Effects of Multivariate Non-Normality and Missing Data on the Root Mean Square Error of Approximation." *Structural Equation Modeling: A Multidisciplinary Journal*.
- Loperfido, Nicola. 2021. "Skewness and Kurtosis of Mean-Variance Normal Mixtures." *Journal of Business Administration*.
- M.S. Yahaya, A.Y. Unguwanrimi. 2021. "Correlation and path-coefficient analysis for grain yield and agronomic traits of maize." *Science World Journal*.
- Mamot, M., N. A. Mohamed, M. D. Mohd Rani, M. Osman, N. A. Mohd Zulkefli, Z. Sekawi, and R Awang Hamat. 2021. "Reliability and validity of knowledge, attitude, practice, and perception (KAP2) questionnaire on food poisoning and its prevention among consumers in Bangi and Kajang, Selangor, Malaysia." *International Food Research Journal*.
- Maurya, Shree Kant. 2021. "Studies on Correlation and Path Coefficient Analysis in Okra." *ResearchGate*.
- Mia Annida Amalia, Prasojo Pribadi and Widarika Santi Hapsari. 2022. "Empirical Test of Pharmacy Staff-Patient Relationship Quality Model in Public Health Center: Structural Equation Modeling-Partial Least Square Approach ." *Journal of Pharmaceutical Science and Clinical Research*.
- Mikko Rönkkö, Eunseong Cho. 2021. "An Updated Guideline for Assessing Discriminant Validity." *SAGE Journal*.
- Ming Liu, Kirsty Kitto. 2021. "Combining factor analysis with writing analytics for the formative assessment of written reflection." *Computers in Human Behavior*.
- Mohamed Shamout, Rabeb Ben-Abdallah. 2021. "A conceptual model for the adoption of autonomous robots in supply chain and logistics industry." *Journal of Uncertain Supply Chain Management*.

- Najah Hazirah Mohd Dzin, Yoon Fah Lay. 2021. "Validity and Reliability of Adapted Self-Efficacy Scales in Malaysian Context Using PLS-SEM Approach." *Journal of Education Sciences*.
- Olivier NICOLAS, Richard LADWEIN. 2020. "Interpreting savings as consumer behaviors: do identity and emotional factors help explain savings intentions?" *Journal of Management Sciences*.
- Ooge, Jeroen, and Katrien Verbert. 2021. "Trust in Prediction Models: a Mixed-Methods Pilot Study on the Impact of Domain Expertise." *IEEE Workshop on TRust and Expertise in Visual Analytics*.
- Przemysław Dorożyński, Klara Dorożyńska. 2021. "The role-playing game to increase students' activity and engagement in the teaching process – A pilot study of research & development campaign." *Currents in Pharmacy Teaching and Learning*.
- Purwanto, Agus. 2021. "Education Management Research Data Analysis: Comparison of Results between Lisrel, Tetrad, GSCA, Amos, SmartPLS, WarpPLS, and SPSS for Small Samples." *Jurnal Manajemen Pendidikan Islam*.
- Rahman, Ani Liza Abd, Nor Hazlin Nor Asshidin, Mohd Nur Ruzainy Alwi, and Amar Hisham Jaaffar. 2021. "Reliability and Validity Analysis of the Personal and Environmental Orientation on Competencies in the Context of Industrial Revolution 4.0: A Pilot Study Using Structural Equation Modeling Approach." *Global Business & Management Research*.
- Rahman, Siti Fatimah Abd. 2021. "Applying UTAUT in Predicting ESL Lecturers Intention to Use Flipped Learning." *Journal of Sustainability*.
- Rahmayana, Putri Elsari. 2021. "Improving Ballastless Track Quality Using Project Quality Management and SmartPLS." *Binus Journal Publishing*.
- Rasoolimanesh, S. Mostafa. 2022. "Discriminant validity assessment in PLS-SEM: A comprehensive compositebased approach." *Research Gate*.
- Rodrigo Basco, Joseph F. Hair Jr. 2021. "Advancing family business research through modeling nonlinear relationships: Comparing PLS-SEM and multiple regression." *Journal of Family Business Strategies*.
- Ronke Justina Komolafe, Omolayo Johnson Ariyo. 2021. "Correlation and Path Coefficient Analysis of Fruit Yield Attributes in Forty Genotypes of Okra (*Abelmoschus esculentus*)." *Journal of Agricultural Research*.

- Sadhana, Raju Ch. Damodar. 2022. "Studies on variability, correlation and path coefficient analysis for yield and quality traits in rice (*Oryza sativa* L.) genotypes." *Electronic Journal of Plant Breeding*.
- Santoso, Teguh Iman. 2021. "Analisis Data Penelitian Sosial dan Manajemen: Perbandingan Hasil antara Amos, SmartPLS, WarpPLS, dan SPSS Untuk Jumlah Sampel Medium." *Journal of Social and Management Studies*.
- Seçilmiş, Cihan. 2022. "How travel influencers affect visit intention? The roles of cognitive response, trust, COVID-19 fear and confidence in vaccine." *Current Issues in Tourism*.
- Sharifah Naziha Syed Kholed, Siti Noorsuriani Maon, Naffisah Mohd Hassan. 2021. "Reliability and validity of the inter-professional collaboration practice instrument." *Journal of Interprofessional Education & Practice*.
- Shrestha, Noora. 2021. "Factor analysis as a tool for survey analysis." *American Journal of Applied Mathematics and Statistics*.
- Silvy Adhelia, Hendra Setiawan, Rizal Ula Ananta Fauzi. 2022. "The Influence of Brand Image and Price on Consumer Purchase Intention with Trust as an Intervening Variable." *Asia Pacific Journal of Business Economics and Technology*.
- Simmering, Marcia J. 2021. "Methodological threat or myth? Evaluating the current state of evidence on common method variance in human resource management research." *Journal of Human Resource Management*.
- Sinaga, Sarman and Lumban Gaol, Jonner and Ichsan, Reza Nurul. 2021. "The Effect of Product Innovation on Consumer Interest in the Purchase of Bottled Tes Product at PT. Sinar Sosro Medan." *Journal of Humanities and Social Sciences*.
- Sowinski, Janusz. 2021. "The Impact of the Selection of Exogenous Variables in the ANFIS Model on the Results of the Daily Load Forecast in the Power Company." *Journal of Energies*.
- Suhada, Karya. 2021. "Analysis of E-Commerce Adoption Level on Culinary Micro, Small and Medium Enterprises (Umkm) in Karawang Regency Using Smart Pls." *Buana Information Technology and Computer Sciences (BIT and CS) /*.

- Syed Abdul Rehman Khan, Asif Razzaq, Zhang Yu, Sharon Miller. 2021. "Industry 4.0 and circular economy practices: A new era business strategies for environmental sustainability." *Journal of Business Strategy and the Environment*.
- Terdik, György. 2021. "Multivariate Skewness and Kurtosis." *Multivariate Statistical Methods* .
- Udayasri, Shika, Reddy, Maddula Sudarshan. 2021. "Estimation of Correlation and Path Coefficient Analysis for Quantitative Traits in Chickpea (*Cicer arietinum* L.): An Experimental Study." *International Journal of Environment and Climate*.
- Vaart, Leoni van der. 2021. "The performance measurement conundrum: Construct validity of the Individual Work Performance Questionnaire in South Africa." *South African Journal of Economic and Management Sciences*.
- Viral Bhatt, Jigar j Nagvadia. 2021. "Measuring Impact of Factors Influencing to Consumer Buying Intention with Respect to Online Shopping." *Research Gate*.
- Wan Mohamad Asyraf, Wan Afthanorhan and Nik Mohd Norfadzilah, Nik Mohd Rashid and Puspa Liza. 2020. "Discriminant Validity: A Comparison of CBSEM and Consistent PLS using Fornell & Larcker and HTMT Approaches." *International Recent Trends in Engineering, Advanced Computing and Technology Conference*.
- Wasit Wongtrakul, Yodying Dangprapai , Nattha Saisavoey, Naratip Sa-nguanpanich. 2021. "Reliability and validity study of the Thai adaptation of the Copenhagen Burnout Inventory-Student Survey (CBI-SS) among preclinical medical students at the Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand." *Journal of PONE*.
- Yaacob, Nurul Aida. 2021. "Farmers' Intention in Applying Food Waste as Fertilizer: Reliability and Validity Using Smart-PLS." *Asian Journal Of Vocational Education And Humanities /*.
- Yan-Qiong Ouyang, Layla Nasrin. 2021. "Father's Knowledge, Attitude and Support to Mother's Exclusive Breastfeeding Practices in Bangladesh: A Multi-Group Structural Equations Model Analysis." *Journal of Healthcare*.
- Yen-Chun Chou, Howard Hao-Chun Chuang, Ting-Peng Liang. 2022. "Elaboration likelihood model, endogenous quality indicators, and online review helpfulness." *Decision Support Systems*.

Ying Ying Tiong, Stephen Laison Sondoh Jr., Geoffrey Harvey Tanakinjal, Oswald AisatIggau. 2021.

"Cleaner operations in hotels: Recommendation for post-pandemic green recovery." *Journal of Cleaner Production*.

Yingsi Tan, Shuang Geng. 2022. "The effects of ad heuristic and systematic cues on consumer brand awareness and purchase intention: Investigating the bias effect of heuristic information processing." *Journal of Retailing and Consumer Services*.

Zhafirah, Aprilia, Qurtubi, and Meilinda Fitriani Nur Maghfiroh. 2022. "Analysis of Determinants of Consumer Intentions to Purchase Halal Bakery Products." *2022 ASU International Conference in Emerging Technologies for Sustainability and Intelligent Systems*.

“Every reasonable effort has been made to acknowledge the owners of copyright material. I would be pleased to hear from any copyright owner who has been omitted or incorrectly acknowledged.”