

TOWARDS SUSTAINABLE CONSUMPTION: FACTORS INFLUENCING GREEN BUYING BEHAVIOR IN KARACHI

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ABSTRACT

Purpose: Rapid depletion of resources like air, water and soil have created a universal awareness about environmental degradation and the need for an urgent and sustainable solution. Against this backdrop, consumers in Pakistan like rest of the world are recognizing the benefits of sustainable lifestyle and green products. The paper studies the role of factors that influence green purchase intention and consumer behavior.

Design/methodology: A cross-sectional study was conducted to collect quantitative data from 301 respondents of Karachi and data was analyzed using partial least square structural equation modeling approach.

Findings: Findings suggest that subjective norm and perceived behavior control have positive impact on purchase intention and consumer behavior while attitude has no impact on purchase intention or consumer behavior. Green communication on the other hand has no direct influence on consumer behavior but its impact on purchase intention is supported.

Research Limitations: This study was limited to Karachi as the populous of Karachi contains people from all over the country who come to the metropolitan city to look for better work opportunities and living standards but this also limits the research to a particular city with its particular constraints so future research can include a larger sample from all over the country

Practical Implications: The literature and the findings of the study can help the companies understand the formation of consumer attitudes towards green purchase intentions and through this understanding, they can successfully identify, tap and capitalize on their target market and enjoy successful saturation of their green products.

INTRODUCTION

In Pakistan, the pressing environmental challenges of air and water pollution, deforestation, and soil degradation have ignited a growing awareness of the urgent need for sustainable solutions. According to the World Air Quality Report 2020, cities like Lahore and Karachi grapple with alarmingly high levels of air pollution, directly impacting the health and well-being of their

residents. Against this backdrop, the concept of 'green purchase intention' takes on significant relevance. Consumers in Pakistan are increasingly recognizing the link between their purchasing choices and the environment, prompting a shift towards eco-friendly and sustainable products. This shift is not only a response to environmental concerns but also a recognition of the broader

benefits of green products, including improved public health, economic advantages, and alignment with global commitments to combat climate change. As Pakistan navigates its environmental challenges, the rise in green purchase intention represents a promising step towards a more sustainable and responsible future. Green marketing has been emerging as a consequence of this consumer consciousness about ecological degradation and the necessity of environment-friendly goods (Nekmahmud, & Fekete-Farkas, 2020). Green marketing practices tend to make businesses promote sustainable development by marketing the goods and services which can contribute to environmental sustainability (Nguyen, et al., 2019) thus influencing the consumers to develop an attitude that enhances the buying intent of customers to buy green products, hence developing a green purchase intention (Pittman, Oeldorf-Hirsch, & Brannan, 2022). Consumers consciously support and depict green purchase intention by supporting green products in order to play their part in sustainable development. When a consumer purchases green products, the demand for the production of green products increases (Tarabieh, 2021), thus promoting the presence of green products. However, if the purchase intention exists but is not being followed by action and the consumer is not actually purchasing the product, this is called an “attitude-behavioral gap” (Zaremozhzabieh, 2021). Johnstone & Tan (2015) studied the gap between consumers attitude of buying green purchase and the development of the purchase behavior and conclude that customers attitude about green products does indeed impact their green purchasing behavior, In the context of Pakistan, this gap can also be assumed to exist as the attitude formation and green purchase intention development are miles apart and there is a need to focus on that aspect. As of yet many studies have depicted that consumers are motivated to buy green goods, but there is a shortage of sufficient studies about the behavior gap that exists between their intention and action (Liu, Liu, & Mo, 2020).

Customer understanding of environmental concerns and the value of products that are green has unquestionably increased over time (Smith, 2020), nevertheless, they still show reluctance in terms of practicing this awareness by making actual purchases (Chang et al., 2019), customers

can interact with numerous different factors and encounter hurdles such as comparatively high costs or scarce availability of green products in relation to their conventional substitutes (Carrington et al., 2014).

There are multiple factors that make it necessary for Pakistan to have more eco-friendly options and environmental difficulties such as air/water pollution alongside deforestation & substandard waste management pose major challenges to Pakistan (Ahmad et al., 2020). The adoption of green products plays a crucial role in reducing resource depletion and pollution while also supporting efforts toward sustainability and there is an increasing worry about potential health hazards linked to the use of conventional products which frequently possess dangerous chemicals and toxins (Soomro, et. al, 2020). In order to adhere to this concern, some prior studies have studied purchase intentions and consumer attitudes pertaining to using green items utilizing (TPB) the theory of planned behavior (Liu, Liu, & Mo, 2020), however, the majority of these studies concluded the lack of presence of strong positive attitudes and genuine buying behavior (Ulker-Demirel, & Ciftci, 2020). TPB does not include the environmental factors hence it has failed to properly adhere to the attitudinal variables pertaining to the green purchase intention (Bosnjak & Schmidt, Ajzen, 2020). The theory of green purchase behavior (TGPB) has been adopted in this study because it is the model that best explains the attitude-behavior gap by explaining the reasons behind it with regard to green products (Han, 2020).

The phenomena of ecological knowledge refer to the understanding of the issues related to the environment (Choi, & Johnson, 2019) and consumer awareness about environmental degeneration and the importance of eco-friendly products (Wang, 2020). Consumers who have a high level of environmental knowledge understand the need for green products and they develop an encouraging attitude to green products and take a high possibility to develop a green purchase intention (Ansari, & Siddiqui, 2019).

Malaysia and other Asian countries have a diminutive study on environmental issues. There have been numerous research on buying intentions, but the factors influencing them didn't entirely depend throughout the attributes of GA and knowledge, The most recent studies have focused

on the variables that affect consumers' tendency to buy environmentally friendly products. However, important elements like green promotion, green information, and green strategy were not considered and observed in a satisfactory manner (Ahmed et al.,2022), it is claimed that green advertising is used to support and raise customer awareness regarding ecologically approachable products. (Alamsyah et al.,2020) besides (Skogen et al.,2018) indicates the environmental issues have drawn the interest of people everywhere, including the media, and academics. As an outcome, companies are focusing on the production and promotion of green products. Business executives and academics have been investigating tactics to persuade consumers to buy environmentally friendly products. \ Green marketing is a growing trend in business nowadays, even if it is still quite new in Asia regions. Asia is now one of the main target regions for global marketers because of the growing concern for the environment and the increasing financial resources of Asian customers. (Li,2017). Over the past three decades, more and more global businesses have adopted green inventions, and clients have bought and welcomed green products. However, this increased readiness to buy green products has not been converted into genuine green product purchases (Zaremohzzabieh et al.,2021).

1.3 Research Objectives

The objective of this study is to investigate the impact of green advertising, greenwashing perception, and GBK on the GPI of Pakistani consumers and how green environmental knowledge influences consumers' attitudes toward green purchase intention.

1.4 Research Questions

RQ1. What is the impact of GA, EK, GBK, and greenwashing perception on green purchase intention?

RQ 2. What is the impact of consumer attitude on green purchase intention?

RQ 3. What is the impact of green advertising, environmental knowledge, green brand knowledge, and greenwashing perception on consumer attitude?

2 Literature Review

2.1 Theoretic Background

2.1.1 Theory of green purchase Intention (TGPI)

The Theory of GPI explains the theoretic structure that attempts to understand and give meaning to an individual's intentions regarding buying recyclable products and understanding consumer decision-making processes regarding purchasing eco-friendly products to encourage pro-environmental behaviors is given priority in this research (Chen & Teng, 2020). The hypothesis suggests that a mix of individual attributes in conjunction with societal norms and setting variables shapes customers' green buying intention and there are several considerations to take into account when deciding whether to buy environmentally friendly goods (Lin et al., 2021). Personal ethics play a major role along with attitudes toward new greener technologies, and risks associated with using these alternatives have become much less severe than before (Mittal & Singh, 2021). Societal morals influence shopping behavior while market accessibility proves important (Islam et al., 2021). The theory posits that people who harbor strong environmental viewpoints tend to exhibit an encouraging attitude to green products and hence have higher tendencies of buying or using such merchandise (Akram et al., 2021). The influence of socially constructed norms advocating for environmental friendliness is another factor that significantly shapes individuals' intentions towards making 'green' purchases (Zhang et al., 2020). Family members and peers consciously or subconsciously reinforce these influences along with societal beliefs promoted via media platforms (Kapoor et al., 2021). Understanding the concepts behind green purchasing intentions assists in comprehending why people decide to buy environmentally safe products while guiding organizations, policymakers, and researchers in their efforts toward a healthier planet (Tarkiainen & Sundqvist, 2020)

2.1.2 Theory of green purchase behavior (TGPB)

(Kalafatis et al.,1999) claims that Individual customers who are dedicated to supporting the surroundings by purchasing green items are always going to have a firm stance against their actions and participate more frequently in environmentally

conscious acquiring intents, there is a "Beliefs-Attitude-Intention Gap." One of the GPB's internal constructs, environmental consciousness, has generated a lot of discussion in many works of literature. In recent years, the incorporation of resilience of components and the resulting green privileges because goods now appeal to consumers who place a premium on environmental awareness. In the field of green marketing, certain researchers have established a strong link between customer attitudes and environmental awareness (Maichum et al., 2017). This theory states that environmental value, an ecological worldview, and the perception of green purchases all contribute to the knowledge of repercussions. The perception of green purchases and awareness of the implications are thought to directly affect attitudes toward making green purchases. Viewpoint on environmentally friendly purchases and recognition of responsibility. (Han, 2020); According to several studies, these concepts theoretically influenced consumer insights of green goods. For instance, a prior study revealed that environmental beliefs significantly influenced a positive mindset toward green items because general perspectives were especially sufficient to motivate GP (Khaola et al., 2014). Also, being aware of how human behavior affects the environment demonstrates an individual's responsiveness to environmental matters; Cognitive and knowledge-based and emotional and awareness-based components form internal factors furthermore Environmental knowledge, as an external factor refers to one's capacity to evaluate how ecosystems and the environment affect society. It also refers to one's level of familiarity with environmental concerns, such as their causes, effects, and solutions. (Hassan., 2014), (Cary., 1993) believed that environmental ideas influenced culturally symbolic beliefs, which in turn reflected how deeply devoted people became to environmental concerns.

2.1.3 Theory of TPB

Icek Ajzen established the model of planned behavior in the year 1985. According to the TPB theory, three categories of thought—behavioral beliefs, normative beliefs, and control opinions (Yadav et al., 2017). Academic research discovers buyer green purchasing behavior using terms like "green purchasing," "green acquisition," and

"environmentally responsible purchasing." Green buying is the consumer's desire to buy and pay for environmentally friendly goods. Motivational variables have an impact on these intents, shifting consumers' purchasing patterns in favor of green items. (Chan., 2001), (Peter., 2011), (Joshi et al., 2015). The TPB assists as the foundation aimed at the cohesive outline to examine GPI in many investigations; A user's attitude is definable as their inner sentiment of likeness or dislikes towards a green product or green marketing. (Nguyen et al., 2019). subsequently (Joshi & Rahman., 2015), the TPB does not take into account how consumer views and decisions to acquisition green products are influenced by motivational variables. The GPB, in the meantime, adds environmental views, information, concern, consciousness, and awareness to the TPB's constructions in order to explain why a buyer's attitudes and purchase intentions might result in green products truly grasping the attitude-behavioral intention relationship.

2.1.4 Theory of Reasoned Action (TRA)

The concept put forth by (TRA) implies that individuals' decision regarding a certain behavior is impacted by their opinion about it as well as how other people view this activity, and consumers are more inclined to buy goods that are ecological when they have a favorable attitude towards environmental sustenance coupled with perceived social norms endorsing green behavior - as postulated by TRA (Ajzen & Fishbein, 2020; Nguyen & Le, 2020).

2.1.5 Value-Belief-Norm (VBN) Theory

In understanding of Promoting environmental causes according to the (VBN) theory, it is essential to consider both individual morals and views along with social norms, and the way individuals view environmental values and understand the repercussions of their actions affects how they perceive their moral duties towards nature (Stern et al., 2019). The VBN theory implies that people with deep-seated environmental views and beliefs are more inclined in favoring eco-friendly goods over other alternatives, specifically in the case of green products, as it serves as proof of their commitment towards sustainability (Wu et al., 2021).

2.1.6 Norm Activation Model (NAM)

As per (NAM), an individual's behavior is largely determined by their moral norms and altruistic reasons, and perceiving environmental protection as a moral duty and having personal accountability for it results in an increased tendency of individuals engaging in pro-environmental behavior, according to NAM (Schwartz et al., 2020). In relation to green products, NAM suggests that individuals who have an ethical obligation towards decreasing their ecological footprint are more prone to selecting eco-friendly substitutes (Biswas et al., 2021).

2.2 Literature Reviews

Accordance to an IBM User survey, 57% of users are keen to switch their procuring behaviors to protect the environment. Companies having a good reputation for being green are the main purchasing motivators for 45% of consumers. (BusinessDIT,2023). Customers' existing and forthcoming purchasing decisions for green or environmentally approachable products are measurable via using their green buying intention (Mostafa, 2007). Assessing purchaser demand for green products is also supportive of making a healthy environment. Researchers found it as related to Western countries, Asian countries have considerably fewer discussions on green marketing and extremely few studies on consumers' green purchasing practices and behaviors. (Lee,2008), (Tanner et al.,2003). As one of the factors in the process of determining purchase intentions, consumers rank brands and products. However, there are two things that might stand between a shopper's purpose and the final choice. The conduct of others contributes to the first factor, and unpredicted situational events build up the next. (Kotler & Armstrong,2001). An organization's bottom line may be impacted by green purchases (Kolk & Perego, 2010). Likewise, it assists in establishing a strong public reputation, brand, and goodwill in the industry. Different cultures, genders, and personality types have different purchasing intentions for green goods. (Sreen et al.,2018). Though customers are becoming more aware of eco-friendly problems and green products, there is a gap between their green attitudes and purchase intentions (Biswas et al., 2020). Organizations competing under different initiatives must come up with fresh business

concepts to stay competitive. The primary factors impacting green purchase intentions comprised physical environment quality, green image, and green trust. (Lee et al.,2014).

2.2.1 Green Advertising and Green Purchase Intention

Green advertising is being considered to educate consumers about the value of the goods they're getting in order to see the requirements for environmentally supportable; The corporate sector depicts involvement in green advertising through the use of product campaigns that feature environmentally responsive components. For purchasing environmentally friendly goods, green consumerism behavior and intention are strongly connected. (Paço & Raposo, 2010), (Chang,2012), (Ariffin et al., 2016). (D'Souza & Taghian, 2005) studied that GA places a strong emphasis on environmentally sustainable products, with all of its components serving as the marketer's opinion to the consumer. A pamphlet, banner, or billboard is used to promote the campaign; One essential aspect of consumer behavior is the intent. that refers to motivation for taking an act built on earlier assessment findings that are made by consumers. If consumer buying intentions are boosted by sufficient knowledge, they will effectively translate into favorable purchasing behavior. (Nsairi, 2012). It is believed that the campaign's execution would have a promising influence on consumers' and businesses' perceptions of naturally approachable products. A positive image for the business can be achieved through the use of appropriate green advertising is evaluated using a few consumer convenience criteria, such as whether or not the campaign for the organic product is pleasant, convincing, trustworthy, or enjoyable for the consumer. It also considers whether or not the campaign for the organic product improves the consumer's favorable opinion of the product. (Zdravkovic et al., 2010), (D'Souza & Taghian, 2005).

Hypothesis1: There exists a positive connection between GA and GPI

2.2.2 Green Advertising and Consumer Attitude

Globally, consumer attitudes regarding the environment have grown increasingly important, as seen in anything from energy-saving movements to changes in how they buy items. (Alamsyah et al.,

2018); Further green advertisements are virtuously profitable in nature (e.g., encouraging individuals to purchase the company's products and become loyal patrons), while still others are image-focused (e.g., raising the corporation's green profile). Some green advertisements have educational content (e.g., helping investors understand the nature of environmental issues). (Menon et al., 1999). Green advertising is vital for a company's promotion strategy since it serves as a platform for government education on ecological issues like global warming in addition to introducing the product. This is because everyone now has to take responsibility for the environment. (Mirvis et al., 2010).

Hypothesis2: There exists a positive connection between GA and CA

2.2.3 Green Brand Knowledge and Green Purchase Intention

Green brand knowledge is a tactic that informs consumers to use or buy green products in order to change their behavior to be more EF; Constant environmental awareness is something that consumers are always eager to utilize to identify green brands and acquire green goods (Sharma et al.,2020) therefore Green brands necessitate message and distinguishing elements that emphasize environmental issues to secure a position in consumers' thoughts and achieve a competitive edge over rivals(Rahbar & Wahid.,2011),(Chen & Chang.,2012) discovered "Green brand trust and image" are understood as "green brands." To increase brand recognition, an environmentally conscious company can adopt green marketing. A company would use green publicizing to raise brand recognition if it has an environmentally friendly brand in its portfolio green brand knowledge strengthens the green brand's reputation and consumer trust, increasing the brand's commitment to purchase intention. (Chen.,2008). In accordance with the investigation, gaining more information about green brands and the environment can improve consumers' buying intentions. Consequently, if businesses want to improve consumers' desire to purchase green brands. (Tan et al.,2022).

Hypothesis 5: There exists a positive connection between GBK and GPI.

2.2.4 Green Brand Knowledge and Consumer Attitude

As stated by (Huang et al.,2014) Customers who are knowledgeable about the environment are meaningfully more pro-environmental and remain more motivated to buy green products for consumption; Previous investigations on green promotion have found that consumers' favorable beliefs toward green products may influence their intention to make a purchase., (Laroche et al.,2001) (Chang et al.2015). Purchasers' attitudes towards eco-friendly behavior have a big impact on how much they distinguish the environment and whether they plan to buy green products. (Flamm.,2009). the advantages of consuming green products distinguish themselves from competing brands, especially for a hardly detectable brand. Offering competitively priced, high-quality green goods that are competing with traditional goods can have an impact on this by indirectly raising consumer awareness of and information about the health benefits of green products. Moreover, customers' degree of consciousness, notice, and demand may vary their purchasing behavior towards a greener lifestyle Once individuals realize the advantages of consuming green products that are consistent with the items' great performance. (Mohd.,2016).

Hyothesis6: There exists a positive connection between GBK and CA

2.2.5 Environmental Knowledge and Green Purchase Intention

The encouraging association between EK and GPI with CT influenced consumers in the emerging economy of Pakistan to purchase environmentally friendly appliances for their homes (Zhongfu et al.,2023). One's attitude toward green items affected one's intent to buy ecologically friendly products; providing management assistance to businesses in the form of marketing and branding initiatives for green products like Body Shop (Indriani et al.,2019). Purchasers' intentions to purchase recyclable goods are prejudiced by their environmental understanding and knowledge, The development of environmental knowledge takes two forms: first, the consumer must get knowledge in order to comprehend how a product affects the environment, and second, the customer must become aware of how the product was made (Kusuma et al.,2018),(Lee.,2010) indicated that

ecological knowledge is regarded to include a person's understanding of a variety of environmental concerns, such as what can be done for protecting the environment by making a commitment to buying green products; A fundamental mental activity called intention occurs prior to a person adopting a product or service; GPI is the opportunity and eagerness of a person to choose green things over conventional ones when making a purchase (Rasid.,2009).

Hypothesis3: There exists a positive connection between EK and GPI

2.2.6 Environmental Knowledge and Consumer Attitude

The involvement of managers is crucial for protecting the environment. Since then, many managers have adopted green practices that put an emphasis on eco-friendly products and integrated environmental sustainability into their business plans. Consumer attitudes can become positive toward green products only because of green environmental knowledge (Candrianto et al.,2023). Consumers might not be able to completely comprehend the scope of the issues surrounding climate change or how their actions have an impact on these issues. (Paco & Lavrador.,2017). claims that attitudes, not knowledge, are the most important determinants of users' readiness to pay extra for environmentally friendly items. (Laroche et al.,2001).

Hypothesis 4: There exists a positive connection between EK and CA

2.2.7 Greenwashing Perception and Green Purchase Intention

Due to customers' growing knowledge of ecological matters, green marketing needed a crucial strategy for businesses seeking to gain a competitive edge. Consumers often view green marketing as greenwashing when it is separated from the actual action. Greenwashing is accomplished solely for financial gain while exploiting people's environmental concerns (Nyilasy et al.,2014) (Zhang et al.,2018), (Shrum et al.,1995),. Besides, greenwashing negatively impacted consumers' intentions to make green purchases. Greenwashing reduces green trust, a crucial component of green purchasing intention. (Guerreiro & Pacheco.,2021). (Paco et al.,2012)

Hypothesis7: There exists a negative connection between GWP and GPI

2.2.8 Greenwashing Perception and Consumer Attitude

Consumers are undoubtedly going to respond well to sustainable luxury products but green products have a higher chance of misleading consumers, greenwashing shows a positive correlation with consumer misperception over brand advertisements and perceived risks (PRs) in purchasing them. However, as soon as greenwashing is alleged, it is detrimental to the business because customers will no longer trust the name or the item. (Chen et al.,2013), (Braga et al.,2018) observed that when a product is misleading, the brand suffers damage and a decline in sales volume, market share, and financial outcomes decrease. In the worst-case scenarios, this would go on until the product was taken off the market. In general, green packaging that links a product to the environment or portrays it as organic is related to the primary greenwashing techniques (cheating the consumer). Other characteristics of the products include ambiguous, irrelevant, and even misleading claims that the product is environmentally friendly or ecologically sound. Greenwashing is a technique where industries betray patrons about their eco-friendly act or the environmental compensation of a good or service. GW is on the rise, and this might have serious adverse effects on investors' and consumers' beliefs in green products (Delmas et al.,2011).

Hypothesis8: There exists a negative connection between GWP and CA

2.2.9 CA and GPI

Consumers who have a favorable attitude to green products are more probable to get a stronger preference for buying green products by mentioning their green brands and strongly relying on a green brand reputation. (Teng,2009) Customers' perceptions of eco-friendly behavior have a big impact on how knowledgeable they are about the environment and whether they plan to buy green products. (Aman et al., 2012) Consumer knowledge, desire, and demand may cause them to change their purchasing habits to embrace the concept of living a greener lifestyle. (Huang et al., 2014) the desire of customers to buy and pay for

environmentally friendly goods. Motivational variables have an impact on these intents, shifting consumers' purchasing patterns in support of environmentally friendly goods. (Peter,2011). Words like "green purchasing," "green acquisition," and "environmentally responsible purchasing" are used in academic research to examine consumer green purchasing behavior. (Chan,2001).

Hypothesis 9: There exists a positive connection between CA and GPI

2.2.10 Mediating Role of CA on GPI

(Paul et al.,2016), (Khaola et al.,2014), have shown their observations on the mediation of consumer attitudes and it is proved that the level of a person's ecological perception did not directly affect their purchasing intentions, but attitudes towards green items had an impact on those intentions. (Assarut at al.,2010). (Ismail et al.,2021) indicated that customer attitude acted as a partial mediator between the effects of green EA and knowledge and a relatively direct effect on green purchase intention. Furthermore (Tang et al.,2014) evaluated the elements influencing Chinese consumers' attitudes toward green products and how those attitudes mediate the effects on GPI, many researchers have found a direct and significant relationship between CT and GPI; the GPB model's depiction of customer behavior. As a result, the GPB model investigates the role that consumer attitude plays in mediating the relationship between GPI and the antecedent variables involved in attitude formation. Recent findings in the field of green consumer behavior research have confirmed the mediation role of consumer attitude on behavioral intention. (Sarumathi,2014).

Hypothesis 10: CA plays a mediating role between GA and GPI

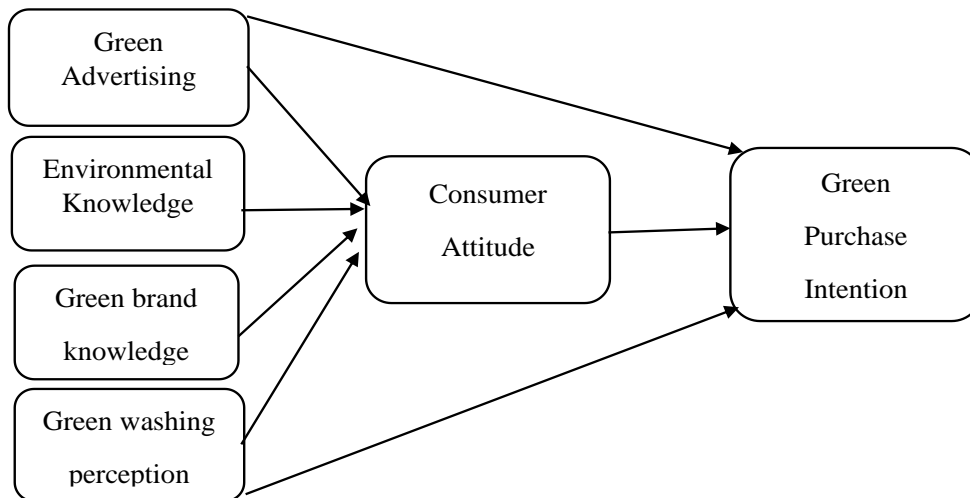
Hypothesis 11: CA plays a mediating role between EK and GPI

Hypothesis 12: CA plays a mediating role between GBK and GPI

Hypothesis 13: CA plays a mediating role between GWP and GPI.

3. Methodology

This research considered the residents of Karachi, Pakistan, who were assumed to have an idea about the phenomena of green and green products, as the population of interest. The study uses a cross-sectional research design; a sample of 301 was extracted through convenience sampling and the snowball technique. The main reason for selecting this particular region was that this is a metropolitan city with high education rates so the understanding of green products is assumed to be high as well, the secondary reason was because of the data collection convenience. The research instrument was created with the help of a 5-point Likert scale that ranges from "1= Strongly Disagree, 2=Disagree, 3=Neutral, 4= Agree, to 5=Strongly Agree". on a Google survey questionnaire that was shared with the help of the link with respondents who fit the targeted population characteristics. The items for green purchase intention were adopted from Rizwan et al. (2014) and Kong et al. (2014). (Rizwan et al.,2014) also adopted the items for green advertising. The items for environmental knowledge were adopted from Safari et al. (2018), greenwashing perception from (Zhang et al.,2018), and green brand knowledge and consumer attitude adopted from Mohd Suki (2016). Data Analysis would be done by using SMART PLS 4. Descriptive statistics were used to summarize the data collected from the survey. The study followed the ethical guidelines for research involving human respondents. One of the limitations of this study is its "cross-sectional" design, which means that the study is only measuring variables at a single point in time. This design does not allow for causal implications to be made, and the study can only identify associations between variables. Therefore, it's important to be clear about the study's design's limitations and avoid making any causal claims based on the findings. Additionally, the use of a convenience sample may limit the generalizability of the findings to other populations. Convenience samples are often biased because they are based on the accessibility and willingness of participants to participate in the study. Therefore, it's essential to be cautious when interpreting the findings and to avoid generalizing them to other populations without further validation.



4: Data Analysis

4.1 Profile of Respondents

The below table portrays the demographic profile of the sample. The sample included a total number of 301 respondents. The sample included both, Respondents both men and women female respondents reported for 44.2% (133 respondents) and male respondents accounted for 55.8% (168 respondents). The sample included wide age range categories with the least age of 30 years and no high age limit. The largest percentage of respondents was from the age group 18-23 years, representing 64.7% (194 respondents) of the sample, 20% (60 respondents) respondents were from the age group 24-29 years, the 30-35 years age comprises 9.3% (28 respondents) of the

sample, while the 30-35 age group comprised 9.3% (28 respondents) of the sample. The respondents had varying educational backgrounds, there were three age categories; undergraduates, graduates, and postgraduates and above. The mainstream of the respondents (71.4 % - 15 respondents) of the sample were undergraduates, 11.3% (34 respondents) respondents were graduates, and 17.3% (52 respondents) respondents were postgraduates or above. The largest income range, less than 30,000, represents 56.5% (170 respondents). The 30,000-40,000 range accounts for 17.6% (53 respondents), while 8.6% (26 respondents) fall in the 40,001-50,000 range. Lastly, 17.3% (52 respondents) report having an income greater than 50,000.

Table4.1

	Frequency	%
Gender		
Male	168	55.8
Female	133	44.2
Age		
Less than 18	03	1
18-23	194	64.7
24-29	60	20
30-35	28	9.3
36 and above	15	5
Education level		
Undergraduate	215	71.4

Graduate	34	11.3
Postgraduate and above	52	17.3
Monthly Income		
Less than 30,000	170	56.5
30,000-40,000	53	17.6
40,001-50,000	26	8.6
Greater than 50,000	52	17.3

4.2 Measurement Table

Table 4.2

Items	Factor Loading	Adopted Sources
Green Purchase Intention (GPI) Cronbach's Alpha=0.863, CR=0.864, AVE:0.595		
I would intend to buy green products	0.823	Rizwan, M., Mahmood, U., Siddiqui, H., & Tahir, A. (2014)
I have a high intention to buy a green product	0.815	
I will purchase green products in my next purchase	0.768	
I plan to switch to a green version of a product	0.748	Kong, W., Harun, A., Sulong, R. S., & Lily, J. (2014)
I consider switching to other brands for ecological reasons.	Deleted	
I consider buying green products because they contribute to less pollution.	0.741	
I would buy green products that are not harmful to the environment	0.725	
Green Advertising (GA) Cronbach's Alpha=0.772, CR=0.775, AVE: 0.686		
Green advertisement enhances my knowledge about green products.	0.849	Rizwan, M., Mahmood, U., Siddiqui, H., & Tahir, A. (2014).
I enjoy watching broadcast green advertisement	0.816	
Green advertisement guide customers in making an informed purchasing decision	0.819	
Environmental Knowledge (EK) Cronbach's Alpha=0.791, CR=0.797, AVE:0.614		
I know about the problem of environmental pollution caused by the various industries	0.794	Safari, A., Salehzadeh, R., Panahi, R., & Abolghasemian, S. (2018).
I have a good knowledge of the environmental issues	0.786	
I can see with my own eyes that the environment is deteriorating	0.755	
I am aware of how to protect the environment from pollution	0.797	

Greenwashing Perception (GWP) Cronbach's Alpha=0.837, CR=0.842, AVE:0.605		
Advertisements of some companies mislead with words regarding their product's environmental features	0.807	Zhang, L., Li, D., Cao, C., & Huang, S. (2018).
Advertisements of some companies mislead with visuals or graphics regarding their product's environmental features	0.796	
Some companies' product is associated with a green claim that is vague or seemingly un-provable	0.738	
Some companies overstate or exaggerate what their products' green functionality actually is	0.767	
Some advertisements leave out or mask important information, making the green claim sound better than it is	0.781	
Green Brand Knowledge (GBK) Cronbach's Alpha=0.865, CR=0.870, AVE:0.650		
Going green products could be a beneficial investment in long-term	0.778	Mohd Suki, N. (2016).
Green product's environmental performance meets my expectations	0.839	
Lack of availability of access is a major reason for the low popularity and demand for green products	0.766	
I purchase a green product because it is environmentally friendly	0.806	
I purchase a green product because it has more environmental benefits than other products	0.838	
Consumer Attitude (CA) Cronbach's Alpha=0.841, CR=0.843, AVE:0.678		
I feel that green product's environmental reputation is generally reliable	0.823	Mohd Suki, N. (2016)
I feel that green product's environmental performance is generally dependable	0.798	
I feel that green product's environmental claims are generally trustworthy	0.849	
Green product's environmental concern meets my expectations	0.822	
Green products keep promises and responsibilities for environmental protection	Deleted	

4.3 Construct reliability and validity

Table 4.3

Variables	Cronbach's alpha	CR	AVE	R-Square	R-square adjusted
Green Advertising	0.772	0.775	0.686		
Environmental knowledge	0.791	0.797	0.614		
Green brand knowledge	0.865	0.870	0.650		
Greenwashing perception	0.837	0.842	0.605		
Consumer Attitude	0.841	0.843	0.678	0.536	0.530
Green purchase Intention	0.863	0.864	0.595	0.522	0.548

The reliability and validity of all constructs were assessed using Smart PLS 4 software; Cronbach's Alpha indicates the internal consistency or reliability of the constructs to be acceptable as the value of all constructs greater than 0.7 which shows that the scale has the required reliability so Hair et al (2016) suggested criteria have been met successfully. The table also illustrates the (CR) value which is above 0.7 as per the benchmark by Hair et al (2014). These AVE values indicate that a significant percentage of the total variance in each construct is accounted for by the underlying factors being measured. Generally, and AVE value above 0.5 is measured as acceptable Hair et al (2014) for demonstrating convergent validity, although it may vary depending on the specific context and research field. In this case, all the constructs have

AVE values above 0.5, suggesting that they have satisfactory convergent validity. This implies that the items used to measure each construct are consistently capturing the construct's underlying meaning and are not heavily influenced by measurement error. (Hair et al., 2011 Henseler et al., 2009;) provided guidelines for R² values of 0.75, 0.50, and 0.25 could be measured as considerable, moderate, and weak; so here R² shows moderate values, and green purchase intention 52.2% predicts by all variables as explained criteria of the endogenous variable by (Hair et al., 2011). R square adjusted describes the variance in DV by exogenous variables. Falk & Miller (1992) so here 54.8% change in GPI can be explained by all IVs

4.4 Discriminant validity

Fornell-Larcker criterion

Table 4.4

	Consumer attitude	Environmental Knowledge	Green Advertising	Green Brand Knowledge	Green purchase intention	Greenwashing perception
Consumer attitude	0.823					
Environmental Knowledge	0.520	0.783				

Green Advertising	0.572	0.537	0.828			
Green Brand Knowledge	0.708	0.610	0.672	0.806		
Green purchase intention	0.650	0.557	0.664	0.679	0.771	
Greenwashing perception	0.494	0.556	0.458	0.527	0.444	0.778

Discriminant validity is evaluated by using the Fornell-Larcker (1981) criterion, the method is to compare the square root of the Average Variance Extracted (AVE) for every construct with the correlations between the construct and the other constructs used in the model. A construct is said to have discriminant validity if the square root of the AVE for the construct is higher than its correlation

with other constructs. As the Table highlights that the square root of the AVE of all the constructs are satisfying the discriminant validity as the Fornell-Larcker Criterion is being satisfied because the AVE of every construct is greater than the correlations between the particular construct and other constructs.

Heterotrait-monotrait ratio (HTMT)

Table 4.5

	Heterotrait-monotrait ratio (HTMT)
Environmental Knowledge <-> Consumer attitude	0.628
Green Advertising <-> Consumer attitude	0.703
Green Advertising <-> Environmental Knowledge	0.674
Green Brand Knowledge <-> Consumer attitude	0.823
Green Brand Knowledge <-> Environmental Knowledge	0.728
Green Brand Knowledge <-> Green Advertising	0.820
Green purchase intention <-> Consumer attitude	0.759
Green purchase intention <-> Environmental Knowledge	0.666
Green purchase intention <-> Green Advertising	0.810
Green purchase intention <-> Green Brand Knowledge	0.781
Greenwashing perception <-> Consumer attitude	0.583
Greenwashing perception <-> Environmental Knowledge	0.682
Greenwashing perception <-> Green Advertising	0.562
Greenwashing perception <-> Green Brand Knowledge	0.618
Greenwashing perception <-> Green purchase intention	0.519

The HTMT results in the table clearly indicate high discriminant validity as all the ratio values are below 0.90 defined criteria by (Henseler et al.,

2015). Thus, it can be determined that every construct is distinctly valid.

Cross loading

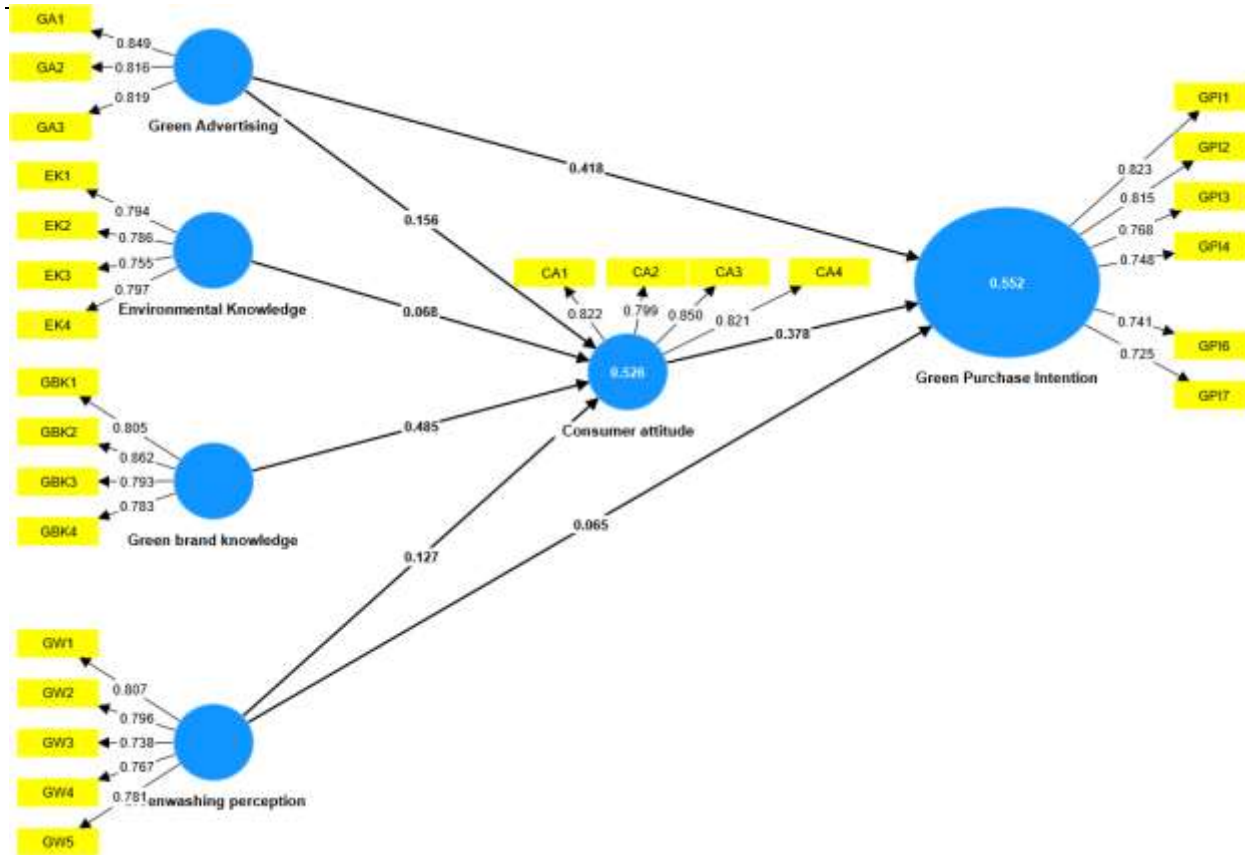
Table 4.6

	Consumer attitude	Environmental Knowledge	Green Advertising	Green Brand Knowledge	Green purchase intention	Greenwashing perception
CA1	0.823	0.453	0.557	0.660	0.560	0.375
CA2	0.798	0.419	0.438	0.520	0.538	0.401
CA3	0.849	0.468	0.432	0.563	0.532	0.457

CA4	0.822	0.368	0.447	0.580	0.506	0.397
EK1	0.464	0.794	0.453	0.559	0.511	0.403
EK2	0.347	0.786	0.361	0.405	0.361	0.354
EK3	0.377	0.755	0.392	0.421	0.431	0.541
EK4	0.422	0.797	0.461	0.500	0.424	0.444
GA1	0.489	0.507	0.849	0.574	0.589	0.451
GA2	0.421	0.346	0.816	0.521	0.508	0.307
GA3	0.506	0.469	0.819	0.572	0.550	0.371
GBK1	0.530	0.554	0.496	0.778	0.545	0.477
GBK2	0.635	0.480	0.552	0.839	0.554	0.413
GBK3	0.496	0.437	0.512	0.766	0.466	0.404
GBK4	0.588	0.522	0.585	0.806	0.574	0.441
GBK5	0.592	0.469	0.560	0.838	0.589	0.398
GPI1	0.501	0.446	0.525	0.536	0.823	0.342
GPI2	0.511	0.374	0.487	0.565	0.815	0.308
GPI3	0.578	0.436	0.531	0.594	0.768	0.337
GPI4	0.514	0.403	0.477	0.468	0.748	0.303
GPI6	0.427	0.422	0.492	0.454	0.741	0.359
GPI7	0.460	0.493	0.553	0.510	0.725	0.402
GW1	0.392	0.488	0.385	0.401	0.394	0.807
GW2	0.318	0.463	0.332	0.383	0.355	0.796
GW3	0.363	0.379	0.325	0.418	0.291	0.738
GW4	0.356	0.429	0.345	0.362	0.322	0.767
GW5	0.474	0.402	0.385	0.475	0.354	0.781

According to Hair et al. (2011), the cross-loadings are displayed in the above table. As a result, all cross loading in the other constructs of the same rows has higher indication loadings. Consequently,

the cross-loading requirement is met. Deleted items from cross-loading are GPI5 value of 0.54 and CA5 value of 0.698 both did not meet the criteria that is greater than 0.7



4.5 Hypotheses testing
Table 4.7

Path	β Value	T statistics (O/STDEV)	P values	Result
H9: Consumer attitude -> Green purchase intention	0.378	6.450	0.000	Supported
H4: Environmental Knowledge -> Consumer attitude	0.065	0.904	0.366	Not supported
H3: Environmental Knowledge -> Green purchase intention	0.025	0.869	0.385	Not supported
H2: Green Advertising -> Consumer attitude	0.136	1.809	0.070	Not supported
H1: Green Advertising -> Green purchase intention	0.418	7.489	0.000	Supported
H6: Green Brand Knowledge -> Consumer attitude	0.511	6.019	0.000	Supported
H5: Green Brand Knowledge -> Green purchase intention	0.193	4.275	0.000	Supported
H8: Greenwashing perception -> Consumer attitude	0.127	2.309	0.021	Supported
H7: Greenwashing perception -> Green purchase intention	0.065	2.065	0.039	Supported

Gauvreau & Pagano (1994) defined criteria of significance as $p < 0.05$ and $T > 1.96$ Wong (2019). The path analysis results in the table show the direct effects. It indicates that there is a significant positive impact of consumer attitude and green purchase intention ($\beta = 0.378$, $p = 0.000$, T Statistics = 6.450), green advertising on green purchase intention ($\beta = 0.418$, $p = 0.000$, T

Statistics = 7.428), green brand knowledge on consumer attitude ($\beta = 0.511$, $p = 0.000$, T Statistics = 6.019), greenwashing perception on consumer attitude ($\beta = 0.127$, $p = 0.021$, T Statistics = 2.309), greenwashing perception on green purchase intention ($\beta = 0.065$, $P = 0.039$, $T = 2.065$) However, there is no significant impact of green advertising on consumer attitude ($p = 0.070$), or environmental

knowledge on consumer attitude (p = 0.366)
environmental knowledge on green purchase

intention(p=0.385) & because the p-values are
higher than 0.05

4.6 Specific Indirect Effects

Table 4.8

	T statistics (O/STDEV)	P values	Results
H13: Greenwashing perception -> Consumer attitude -> Green purchase intention	2.191	0.029	Supported
H11: Environmental Knowledge -> Consumer attitude -> Green purchase intention	0.869	0.385	Not supported
H12: Green Brand Knowledge -> Consumer attitude -> Green purchase intention	4.275	0.000	Supported
H10: Green Advertising -> Consumer Attitude -> Green purchase intention	1.782	0.075	Not supported

The mediating indirect effects are highlighted in the table. The results prominently show that there is a mediating role of consumer attitude plays a mediating role between GM and GPI (T=2.191, p = 0.029), GBK and GPI (T = 4.275, p = 0.000), however, the values indicate that there is no mediating role of consumer attitude between EK and GPI (p = 0.385), GA and GPI (p = 0.075).

4.7 Model Fitness

Table 4.9

	Estimated model
SRMR	0.072
NFI	0.739

The above table statistically highlights the estimated model fitness. The statistics show the adequacy of the constructed model in explaining the underlying data. The Standardized Root Mean Square Residual (SRMR) value of 0.072 indicates that the predicted values of the model are a highly close fit to the observed data. A lower SRMR value suggests a better fit, hence, the value of SRMS in the table indicates overall satisfactory goodness of fit because the defined criteria for fitness of SRMR is less than 0.08 is considered a good fit (Hu & Bentler, 1998) Henseler et al. (2014). The model's fitness can be further understood with the NFI value of 0.739. While not reaching the ideal value of 1 or above 0.9 (Bentler & Bonett, 1980), the NFI still represents a moderate fit between the observed and predicted data. The NFI computes the amount of variance that is described for by the model

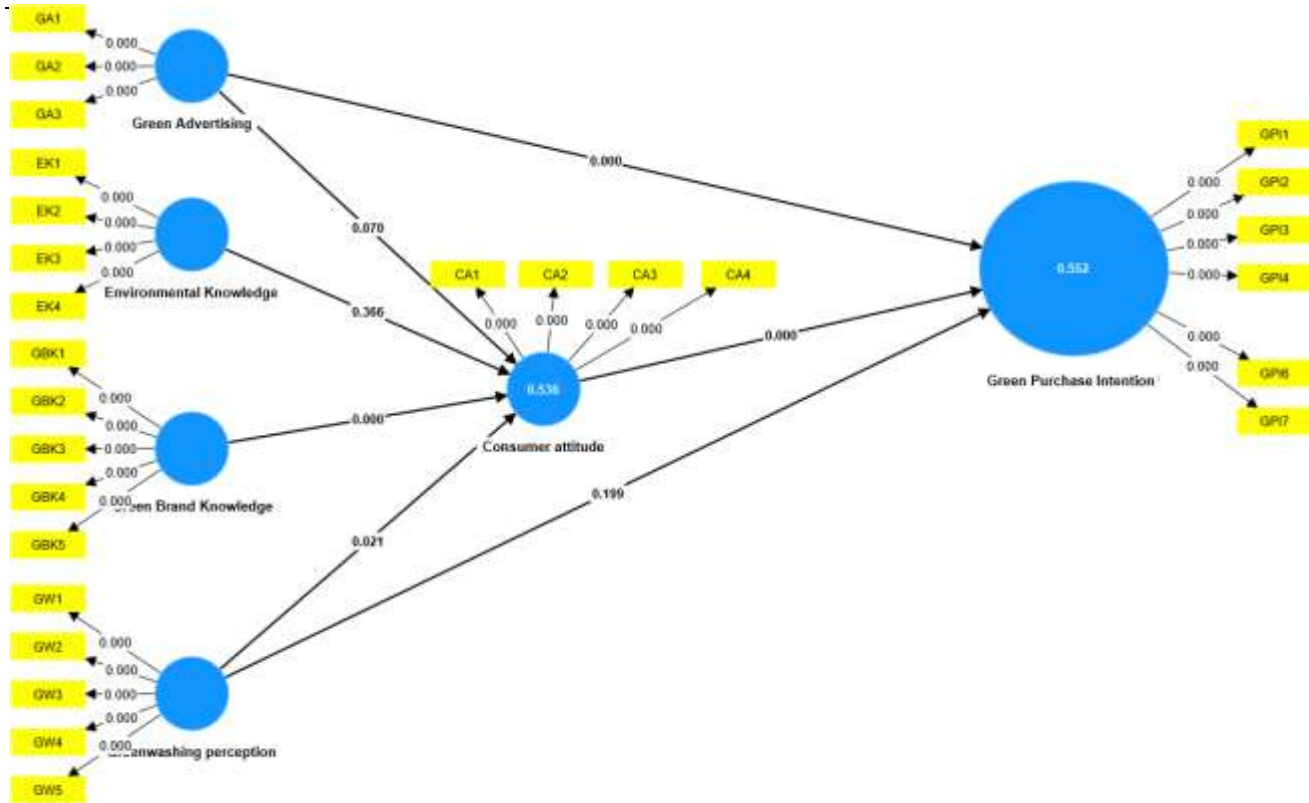
relative to a null model. A higher value suggests a superior fit. Hence, the NFI of 0.739 indicates that the estimated model accounts for approximately 73.9% of the variability in the observed data. In summary, the model's SRMR value of 0.072 and NFI value of 0.739 indicate an acceptable level of fit.

4.8 prediction summary

Table 4.10

	Q ² predict	RMSE	MAE
Consumer attitude	0.508	0.712	0.519
Green purchase intention	0.512	0.710	0.524

Table 4.10 presents the prediction summary which provides an evaluation of the performance of the model in predicting two essential variables; green purchase intention and consumer attitude Q² value must be greater than 0 (Hair Jr. et al., 2014) (Hair et al., 2011), The metrics utilized to assess the exactitude of the predictions are Root Mean Square Error (RMSE) defined criteria is 0 to 1 by (Hu & Bentler, 1998) and Q² predict. For green purchase intention, RMSE was 0.710, Q²predict value of 0.512, and MAE was 0.524, and these values indicate a reasonable level of accuracy in predicting this variable, having an average absolute difference between the predicted values and the observed data. For consumer attitude the RMSE was 0.712, Q² predict was 0.508 and the MAE was 0.519, these values suggest that for consumer attitude, the model has a moderate predicting power with a reasonable level of accuracy.



Chapter 5: Discussion and Recommendations
5.1 Discussion

The intent of this study is to evaluate the relationship between green advertising, green brand knowledge, environmental knowledge, greenwashing perception, consumer attitude, and green purchase intention. The findings of this study erected on insights from Pakistani people about their attitude toward green purchase intention. Consumer attitude influences green purchase intention so it shows both have a positive connection between them; similar outcomes found by (Lee, 2010) When consumers' positive attitudes are formed with relevant information and appeals, their intention to purchase environmentally friendly skincare can be increased. Additionally, previous research findings support the favorable influence of consumers' environmental awareness on their attitudes toward green products but at this time environmental knowledge did not influence the green purchase intention of the consumer (Tan et al.,2022) investigated and found comparable findings EK did not impact GPI of Pakistani consumers. GA did not affect CA so just advertising cannot change the consumer attitude other factors need to be treated sensibly as well; In

order to achieve favorable results, marketers must concentrate on creating a positive edge for the variables to get positive outcomes (Khandelwal et al.,2011). GA has a significant impact on GPI correspondingly explored by Chan (2004), GBK significantly affected CA and it is demonstrated in prior studies either. (Pathak et al.,2016) (Eze & Ndubisi,2013) (Mostafa,2009) (Chen & Chang,2012). GBK significantly impacts GPI The current research model's evaluation results for the influence of green brand knowledge on green purchasing intention via the attitude towards green brands revealed that this indirect influence was more significantly impacted than the direct influence of green brand knowledge on green purchasing intention. The preceding investigations provided evidence in support of this research (Suki,2016) and GWP positively influences CA; It is possible to overcome the effect of perceived greenwashing on consumer attitudes toward advertisements and businesses by using a rational appealing strategy. (Schmuck et al.,2018). GWP significantly impacts GPI likewise (Nyilasy et al., 2014) found Greenwash has a negative effect on consumers' intentions to buy. Therefore, businesses spend a lot of money on green

marketing in the hopes that consumers would adopt better brand attitudes and purchasing intentions as a result of their desire to be socially and environmentally conscious. (Nguyen et al.,2022) discovered identical results as this research found the positive mediating role of CA between Greenwashing and green purchase intention. CA did not mediate between EK, as evidenced via (Tan et al.,2022) Consumer attitudes towards intent to make green purchases could be explained by a lack of green and environmental knowledge that is actually relevant to the green market. Despite their environmental concerns, consumers are unable to switch their attitudes on environmental behavior since there is a shortage of green marketing. As a result, these elements act as a barrier to actual customer behavior. Consumer attitude did not play a mediating role between green advertising and green purchase intention. As discussed above advertising could not affect attitudes and environmental knowledge could not affect green purchases of Pakistani consumers.

Conclusion

The study focuses on understanding the features which influence the purchase intention of customers to buy green products by affecting the attitude of consumers toward green products. Green brand knowledge, environmental knowledge, green advertising, and greenwashing perception were considered the influencers. According to the findings, the study has drawn the conclusion that environmental knowledge & green advertising don't influence consumer attitudes toward green purchase intention. The reason for this non-influencing might be because in Pakistan advertising for green products is almost non-existent due to which advertisements might not be the key influencers of consumer attitude towards green purchase intention, when we talk about environmental knowledge, it is developed through a holistic approach towards green products, a holistic approach includes the awareness and significant acceptance of green products by a nation, but being a third world country this ingredient is also missing. The study has found green brand knowledge & greenwashing perception have a significant influence on consumer attitude towards green purchase intention, GBK has a positive influence while greenwashing perception has a negative influence

on the consumer attitude towards green purchase intention. The reason for this might be that many brands promote themselves as green brands during their brand activation campaigns which develop the green brand knowledge of the customers.

Implications

The study has some major implications for the corporate brands that are or are willing to be inclined toward green products. The literature and the findings of the study can help the companies understand the formation of consumer attitudes towards green purchase intentions and through this understanding, they can successfully identify, tap and capitalize on their target market and enjoy successful saturation of their green products.

Limitations and future research

This study was limited to Karachi as the populous of Karachi contains people from all over the country who come to the metropolitan city to look for better work opportunities and living standards but this also limits the research to a particular city with its particular constraints so future research can include a larger sample from all over the country. Apart from the sampling enhancement, future research can also include the influence of academic background on the awareness about green products, which influences the consumer attitude for intending to purchase green products, it would be interesting to see the role that education plays in being aware of green products which ultimately dictates the attitude of consumers on green products purchase intention.

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