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A Step Towards Sustainable Development: Can Electronic Media Fosters Sustainable Consumption Behavior?

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Abstract: *Change in climate has deeply affected the entire ecosystem. It is the responsibility of every individual to protect the Earth. With many followers, the main burden can lie with individual competitive bodies, such as the media. In the present era, media is considered a significant influencer; thus, media might engage in stimulating green actions. Hence, the current inquiry is designed to identify process that leads to green action formation by integrating three dimensions: the consumers' knowledge, climate change, and perceived behavioral control. Two statistical methods that were used on the dataset were partial least square structural equation modeling and confirmatory factor analysis. The results show that green brands, along with environmental knowledge perceived behavioral control, are strongly and favorably associated with environmental attitude. Further, environmental attitudes are associated with green consumption intention in a favorable yet strong manner, and intention shows a direct and significant relation with green consumption behavior. However, the concern about climate change has a positive but insignificant association. On the other hand, the media moderates all proposed relations except between perceived behavioral control and environmental attitudes.*

Keywords*: Electronic Media, Sustainability, Consumption Behavior, Smart PLS, Pakistan.*

Introduction

According to Millington et al. (2019), human activity causes the Earth's temperature to rise and radically alters the environment around us, from pollution to overpopulation Social, economic, and ecological catastrophes are caused by climate change and have made nations review their environmental protection issues and increase the awareness among people about the deterioration of the environment (Barbarossa & De Pelsmacker, 2016; Kautish, Paul, & Sharma, 2019). Also, the ecosystem is significantly influenced by various individuals' actions in terms of consumption (Sun & Wang, 2019). The environmental problems require severe attention and long-lasting solution; hence, understanding consumers' views on ecologically friendly goods and green consumption behavior can help corporations discover insights on sustainable marketing models (Taufique & Vaithianathan, 2018; Carrete et al., 2012).
An exceptional interest is found in understanding the association between consumers' beliefs, attitudes, and behavior concerning the environmental issues and consumption of green products (Jekria & Daud, 2016; Arısal & Atalar, 2016; Kumar & Ghodeswar, 2015). Aydın and Ünal (2015) assert that consumer lifestyle influences responsible consumption in addition to environmental knowledge and attitudes. By embracing such lifestyles, consumers can contribute significantly to the "green economy" by striving for sufficiency, voluntary

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simplicity, sustainable consumerism, or other means (Binder and Blankenberg, 2017; Lubowiecki-Vikuk et al., 2021).

Moreover, marketers are rapidly responding to the present needs by introducing new, environmentally friendly products (Zhou, 2018), but consumers must be ready to accept this green change. If consumers are not going to consume green products, then all these innovations and ecologically friendly products will be of no use. Hence, the most crucial thing is to aware of common people that how they can contribute positively to the Earth. Additionally, it has been noted that buyers who care about the environment are prepared to spend more on green or eco-friendly products (Khan and Mohsin, 2017). Accordingly, it has been assumed that environmental concerns are the real reason behind consumers' preference for green products (Chen and Tung, 2014). Nearly 50% of customers in nine developed countries regularly buy green products, according to a recent global study report. It's interesting to note that 24% of them spend more on these goods (Chen et al., 2018).

The people of the present era are surrounded by different mediums through which they get information, increase their knowledge, mold their lifestyles, and get awareness (Nisar et al., 2019). Across the globe, the most effective medium is the 'Media' as it allows an individual to stay connected, alert, focused, and has the power to change people's minds, thoughts, and perceptions. Previously researchers focused on social media's role in spreading awareness and promoting green products (Sun & Wang, 2019; Byrum, 2019; Zhao et al., 2019), but none targeted the other sectors of media such as electronic media.

Media lets a person learn about health problems, protect the environment, politics, and much more. News networks have the potential to quickly spread information since people are very interested in these programs. Similarly, other channels, such as entertainment and informative programs, are also a significant influencer. Additionally, it's human nature that people are more prone to grab the gist of visual, so E-media lay more impact on humans. Over time, social media's impact has increased to the point that we utilize it to disseminate news, support elections, and even do business. Social media has surpassed traditional media as the most widely utilized communication tool due to its ease of use and speed. Information on protecting the environment is disseminated through it. Consumers often use social media to assess a company's or product's sustainability (Dedrick et al., 2013). In contrast, social media is often a great way for companies to tell their customers about their environmental performance. Social media has generally been very successful in motivating young generations to adopt sustainable environmental practices. Through information sharing, online activism, brand awareness, lifestyle promotion, and green consumerism, social media is raising public knowledge of environmental issues and encouraging eco-friendly attitudes and behaviors (Chen and Madni, 2023).

When people know about the deterioration occurring globally, it increases their anxiety regarding rapid changes in the atmosphere (Heo & Muralidharan, 2019). People get conscious about their surroundings as acid rain, depletion of fossil fuels, air pollution, water contamination, deforestation, global warming, and the ozone layer reduction; everything is getting an increase. People are now curious to learn about these factors as they directly affect the environment (Lau et al., 2014). Another important component is environmental awareness in environmental protection, as they would be strongly inspired to protect the Earth when people have awareness. Similarly, according to the researchers, an increase in environmental concern resulted in a positive inclination towards green consumption behavior (Tung, 2014; Lee, 2013).

Similarly, researchers argued the importance of media in spreading awareness and stated that media could significantly influence consumers' environmental concern (Paco & Raposo, 2009). Moreover, the authors believed that consumers' long-term attitudes toward the environment could be shaped through relevant information, and such information can be

delivered through media. But after looking over the literature, it's noted that literature lacks studies regarding the role of media in green products. As best as the authors could know, no prior research studies media influence as a moderator. Hence, the determination of current work is to close this gap in sustainability literature by incorporating e-media as a moderator in consumers' knowledge and concern of climate change, along with TRA and TPB antecedents.

Many researchers such as Akehurst et al. (2012), Brochado et al. (2017), Carrete et al. (2012), and Zabkar and Hosta (2013) have looked at customer behavior that is environmentally sensitive in a variety of green marketing situations. The studies have assessed the dynamics of customers' environmental behavior such as socio-demographic and psychographic variables. It is revealed that customers are inclined to green behavior based on their motivation to perceive personal benefits, cultural values, and traditional heritage of savings.

Furthermore, a number of recent studies (Paul et al., 2016; Liu et al., 2017; Verma & Chandra, 2017, Taufique & Vaithianathan, 2018) have made extensive use of the theory of reasoned action and theory of planned behavior to comprehend the aspects influencing environmentally responsible consumer behavior from a variety of perspectives (Fielding et al., 2008; Kim & Karpova, 2010; Coleman et al., 2011; Han, 2015). However, their suitability for the role of electronic media and environmental attitude has not been studied under the light of sustainable development in a developing state. Nevertheless, Trivedi et al. (2018) used media influence as an independent variable to study the direct influence and revealed an insignificant association towards environmental attitude. Whereas, in the current analysis, media influence is reserved as a moderating variable to have an in-depth analysis of whether media can lead to green consumption behavior among the emerging market consumers, Pakistan. Besides, the current work is designed to fulfill the void in research by understanding whether consumers' knowledge and concern of climate change foster green consumption behavior? Along with e-media's moderating power, it can change perception if Pakistani people are not aware, how can media affect the proposed relationship in sustainable consumption behavior. Moreover, some authors such as Jekria and Daud (2016) Kumar and Ghodeswar (2015) argued that among various commercial sectors and cultural contexts, the demand and attitudes for ecologically friendly goods are not all the same, it varies as consumers possess distinct mindset also they perceive the concept differently. Hence, it is a perfect opportunity to look into how different variables affect consumer green consumption behavior in developing countries. Marketers are now focusing on developing a product that would be environmentally friendly and would still please consumers. Therefore, marketers use different mediums through which they can promote the products. Thus, media is the crucial source through which awareness can be done and products can be promoted. In Pakistan, sustainable development is at an initial stage regarding consumption behavior (Ali et al., 2011; Ali & Ahmad, 2016). Despite its efforts, Pakistan remains extremely vulnerable to the consequences of climate change. Pakistan ranks sixth among the countries most vulnerable to climate change, according to the 2020 Global Climate Risk Index report. Pakistan has had 152 major natural disasters between 1999 and 2018, including smog and heat waves in numerous cities, which have disrupted human lives in addition to having an impact on the economy. An estimated USD 3.8 billion has been lost by Pakistan (Zia et al., 2024). Therefore, it is pertinent to note how businesses and marketers guage the consumer lifestyle transformed into green and sustainable consumption for a better and healthier environment.

Additionally, marketers claim that their green products benefit from preserving the environment, but such claims are useless without a clear understanding of how emerging target markets triggered to consume green products (Heo & Muralidharan, 2019). As a result,

the study poses noteworthy explanations and findings about the consumer perspective towards sustainable development and consumption especially in the context of Pakistan. Moreover, the study uses the constructs of TPB in the settings of sustainable consumption of Pakistani Youth. It also adds value to the literature by assessing the influence of Media as a moderator among the constructs. Therefore, the results of the study are beneficial for policy makers, environmental bodies, marketers, businesses, and investors for the potential growth of eco-friendly investments.

This is how the other part of the research is planned: literary discourse of the scholarly constructs is put forward under hypotheses development along with anticipated hypotheses. Next, the research's approach along with resultant deductions are discussed. Later on, discussions, ramifications, and constraints round out the study.

Media in Pakistan

The history of Pakistan shows that the media has been an important way of spreading awareness, culture, and entertainment. Even before independence, the leader Quaid-e-Azam used newspaper as a communication source; thus, he introduced Dawn Newspaper in 1941. After that, the radio also became the source and came into being on 13th August 1947. This day holds a special place in the hearts of Pakistanis because, on this day, it broadcasted the announcement of the creation of Pakistan. Slowly and gradually, as the technology upgrades, the source of information also increases. In 1964, the first Pakistani channel, i.e., Pakistan Television (PTV), was launched, and at that time, it enjoyed a dominant position in media outlets. In 1964 it was a black and white channel, then in 1976, color transmissions were aired for the first time.

In 2002, the government's monopoly over radio and television ended, and after that, private electronic media platforms started operations. Since then, for the largest number of people in Pakistan, electronic media has become the principal source of news and information. As per the TV licensed issued by PEMRA, 89 channels are functioning in Pakistan (PEMRA, 2020). It includes news channels, informative, and entertainment channels as well. On the other hand, it is stated in Pakistan Today (2020) that with a readership of around 20 million, there are about 4,200 daily and weeklies nationwide that are registered with the Press Information Department (PID); however, if all regional dailies and weeklies were included, the total number would have been considerably higher. As per the All Pakistan Newspaper Society data, there are 473 members' publications, and 210 are full members, it includes the newspapers of all languages. All these figures indicate that many people are linked to electronic and print media in Pakistan. People in Pakistan follow the media daily, which is why Pakistani media are powerful and can easily control their minds.

Literature Review

Theoretical Background

The Theory of Reasoned Action and Theory of Planned Behavior

Following an assessment of the literature, Theory of Reasoned Action (TRA) introduced by Ajzen and Fishbein (1980) along with Theory of Planned Behavior (TPB) introduced by Ajzen (1991) emerged to be the absolute relevant and popular utilized model for exploring human behavior.

According to Ajzen and Fishbein (2005), the theory of reasoned (TRA) action reveals that human behavior is essentially impacted by individuals' beliefs, attitudes, and intentions. TRA argues that individuals' volitional control, which is their cognitive process for decision-making leading to a certain path of action (Wegner, 2003), is predicted through subjective norms and the attitude they possess which ultimately creates impression on their behavioral intentions.

Unlike TRA, Theory of Planned Behavior (TPB) also studies non-volitional behaviors by including discernment of supervision or authority over human behavior as an added interpreter of intentions and behavior of individuals (Ajzen, 1991), thus indicating that the immediate precursor of human behavior is the performing intent to behave, which is commonly referred to as Behavioral Intention (Ajzen, 1985). According to Ajzen (1991), the TPB framework focuses on three independent variables for analyzing behavior: attitude, subjective norm, and perceived behavioral control. Attitude is the extent of the assessment of the behavior, whether favorable or bad, the subjective norm reflected by perceived social pressure or acceptance to participate in a certain activity, and finally, perceived behavioral control (PBC) is degree of sophistication and regulation to carry out a specific activity. (Ajzen, 1991; Ajzen, 2002). However, TPB framework has been considered by researchers as an addition to the TRA framework as it integrates non-volitional behavior through the addition of a supplementary construct that is Perceived Behavioral Control (PBC) (Ajzen & Fishbein, 1973; Ajzen & Fishbein, 1977).

Several scholars have classified TRA and TPB as a thorough and organized approach to conceptualize, and empirically measure factors which predict behavioral intentions and behavior, especially in green marketing settings (Bang et al., 2000; Conner & Abraham, 2001; Perugini & Bagozzi, 2001). Prior studies also revealed that TPB constructs are relevant predictors of pro-environmental behavior in different contexts, i.e., energy-saving, recycling, and even soil conservation (Savari et al., 2023; Liu et al., 2021). Hence, TPB is an essential framework that enhances the predictability of the model of green consumption intention.

Hypotheses Development

Green Brand Knowledge

Customers' understanding of a green product in relation to a particular brand name, sign, symbol, design, word, and quality is known as green brand knowledge. These characteristics aid in setting one seller's product or service apart from another (Kotler & Keller, 2009). Research conducted by Suki (2016) determined green products' consumption intention influenced by green brands, attitudes, and knowledge. Furthermore, the findings showed that the crucial element of a green product consumption intention is green brand knowledge. Another scholar such as Huang et al. (2014) believed that because of awareness, customers are now keen to protect the environment, and it greatly influences their attitude/ views toward the pollution-free environment. Another study analyzed the rejection of green and non-green brands by consumers and concluded that they did not deliberately ignore green marks. Green products are rejected, or customers do not favor them because they are unfamiliar (Wheeler, Sharp, & Thiel, 2013). Thus, it is believed that it is imperative to create green brand knowledge among consumers to boost consumers' intentions. Thus, the ensuing assumption is generated:

H1: Green Brand Knowledge positively influences Environmental Attitude.

Environmental Knowledge

Paço and Lavrador (2017) defined environmental knowledge that it is all about knowing the principles, theories, information, and connections pertaining to the natural world and its ecosystems. It encompasses many aspects, such as the knowledge of common people about the environment, environmental changes and their impacts on the Earth, and motivation with a mutual concern for sustainable development to be easily accomplished through media influence. Furthermore, Rizwan et al. (2014) stated that the purpose of environmental knowledge is an understanding of the environment by consumers. According to a 2009 Portuguese study by Paco and Raposo, consumers understand the importance of environmental concerns and are in favor of measures that would assist the environment, even if they do not take concrete action to address their concerns. The ignorance of the greening idea in recently industrialized nations is the reason why environmental concerns are not reflected in consumer behavior. It is also established that environmental knowledge depicts a positive environmental behavior (Law, Hills & Hau, 2017; Zeng et al., 2023). An individual's understanding of the environment forces them to use green items in order to rescue the Earth. As a result, environmental attitudes and actions are also growing among other people. Therefore, it will strengthen if awareness eventually increases their actions towards sustainable consumption. The following hypothesis is formed:

H2: Environmental Knowledge positively influences Environmental Attitude.

Concern of Climate Change

The level of environmental concern relates to the knowledge of environmental issues and willingness of individuals to offer solutions. Those individuals help, offer elucidation and assist struggles to solve environmental problems (Steg & Groot, 2012). A study on environmental concerns was conducted in Malaysia among the secondary students and observed their environmental concerns. The research findings showed that environmental concern among them was high, but still, the students did not behave and adopt the same mindsets when building the surrounding better because it was difficult for them. People were also highly concerned about the environment, but they did not follow the same thing in real life. Andres, Salinas, and Vallejo (2009) and Reddy et al. (2023) argued that organizations should work on environmentally friendly product strategies since now, customers are more apprehensive about environmental problems. Moreover, they mentioned that organizations should offer green products or do some innovation in the existing products to prevent credibility in their customers' eyes. Therefore, the hypothesis is generated as:

H3: Concern of Climate Change positively influences Environmental Attitude.

Perceived Behavioral Control

According to Bandura et al. (1980), a specific behavior is normalized through the confidence and ability of an individual to execute that certain behavior. Perceived Behavioral Control (PBC) consists of internal control factors, self-efficacy, and external control factors that are the perceived obstacles or generic elements that cause obstruction (Ajzen, 1991; Armitage & Conner, 2001). TPB's most crucial antecedent is PBC, among the three essential antecedents, as it focuses on behavioral concerns that emerge through volitional control. Sparks and Shepherd (1992) revealed that even if the consumer's attitude towards the environment was positive and they had encouraging subjective norms, they were still reluctant to indulge in

green products' consumption, as they lacked Perceived Behavioral control due to the sufficient resources and opportunities. Previous research studying pro-environmental behavioral factors identified PBC as a controlling factor that includes cost, availability, time, quality, and product labeling. These facets specify consumer's perceived barriers to GPB.

H4: Perceived Behavioral Control positively influences Environmental Attitude.

Environmental Attitude (Inward and Outward)

The present research includes two perspectives of environmental attitude, i.e., inward and outward environmental attitude. Studies on green products have shown that behaviors affect consumers' purchasing behaviors and decisions (Tanner & Kast, 2003; Ha & Janda, 2012; Zhou, Thogersen, Ruan, 2013). Chen and Tung (2014), Law, Hills, and Hau (2017) determined how attitude affected intention in the setting of a green hotel and came to the conclusion that attitude had a favorable impact on intention. Scholars have also used TPB in the context of India to understand consumer's green product purchase behavior by considering the effect of Perceived value as a crucial construct (Yadav & Patahk, 2016), while a study in India found that environmental attitude was the essential predictor of green hotel visit intention among consumers (Verma & Chandra, 2018). Fransson and Garling (1999) revealed that to contribute towards environmental protection, consumers might go above and beyond participation and proactively engage in a range of social, political, legal, and other matters to do so, this is their outward environmental attitude that positively and meaningfully impacts public policy-making (Stern, 2000). Some researchers who examined the effect of environmental attitudes and purpose of real consumer behavior in Asia found a clear link between the constructs (Chan & Lau, 2002; Mostafa, 2007; Singh & Gupta, 2013; Lavuri et al., 2023). The link between the inward and outward environmental attitudes of consumers on intention to purchase environmental goods has not been explored. Therefore, assuming the positive association between environmental attitudes on green products' purchase intention, we put out the following hypothesis:

H5: Environmental Attitude positively influences Green Consumption Intention.

Green Consumption Intention and Green Consumption Behavior

Behavior indicates readiness to act based on formed intention (Nguyen et al., 2019). Further, Ajzen and Fishbein (1980) stated that inclination to consume green goods might be seen as an individual's motivation to apply an endeavor to adopt eco-friendly consumption practices. Prior researches revealed that as the intention ultimately rises, the likelihood of consumers using green products rises (Chan & Lau, 2002; Beckford et al., 2010; Liang et al., 2022). Moreover, intention depends on many other aspects, i.e., environmental concern, environmental knowledge, social influence, and green brand knowledge. If people demonstrate a positive attitude towards green consumption intentions, their behavior towards consuming green products is positive (Lin & Niu, 2018). Therefore, from the outcomes of prior literary evidence. Following this, an assumption is developed as:

H6: Green Consumption Intention positively influences Green Consumption Behavior.

Media Influence

According to the Agenda-setting theory, there are two-level agenda-setting of media. First of all, media has the most prominent role in people's lives as it influences their way of thinking (McCombs & Shaw, 1972). Second, the authors clarified further that the media is not limited to this as it can build or recreate any impression about any question, event, and even people in people's minds. Prior research studied the influence of media from different perspectives; for instance, Curtin and Rhodenbaugh (2011) analyzed media agenda-setting on public agenda. Other research studies set the plan for the environmental concerns of customers in statements made in green-washed advertisements. Moreover, as per the studies of Muralidhan et al. (2016), Wagner (1997) Butler (1990) and Lee & Cho (2020), the environmental attitude and behavior of consumers are positively exaggerated by the media because it increases the knowledge among consumers regarding the problems of environments such as environmental deterioration, emissions, and global warming. The media impact is also strongly related to consumer behavior and a pro-environmental attitude (Holbert et al., 2003; Awan et al., 2022). The studies of Yu et al. (2017) depicted a favorable and significant association and concluded that media could shape climate change concerns among consumers by highlighting several environmental issues. On the other hand, some studies portrayed an adverse nexus between media influence and environmental attitude (Trivedi et al., 2018; Qader & Zainuddin, 2011). It shows that consumers sometimes do not even bother about the news that it results in negative behavior.

As far as the authors are informed, no research is led that uses media influence as a moderator in green consumption behavior. Media impact can play an essential role in improving connection with attitudes towards the environment. As the media on-air several advertisements of different products and brands, it creates a positive image in consumers' eyes. For instance, there are many advertisements for air conditions that save energy and are Inverters. Similarly, many other brands are paving the way to make Pakistan Green and implement different strategies, so when consumers see such things on media, it eventually strengthens the link between green brand knowledge and environmental attitude.

Similarly, when media shows the rapid changes occurring globally and informs the consequences of environmental degradation, consumers' environmental knowledge and environmental attitude will be strengthened by the media's influence. Furthermore, prior research has shown that positive green purchasing practices and an increased use of environmentally friendly products has led to both developed and developing countries, where people were very concerned about the environment as a result (Chen & Tung, 2014; Singh & Gupta, 2013; Lee et al., 2012). Hence, if we incorporate electronic media to have additional information regarding the association between concern of climate change and environmental attitude based on other research, we can assume that the relationship will be more substantial through media. Lastly, when consumers consider that there are few hurdles but great resources and knowledge, it fosters the perceived behavioral control; if media becomes the source through which they might receive information about those resources ad opportunities, it will undoubtedly lead to a positive outcome. Hence, in light of the debate above, the following hypotheses are developed:

H7: Media Influence moderates the relationship between Green Brand Knowledge and Environmental Attitude.

H8: Media Influence moderates the relationship between Environmental Knowledge and Environmental Attitude.

H9: Media Influence moderates the relationship between Concern of Climate Change and Environmental Attitude.

H10: Media Influence moderates the relationship between Perceived Behavioral Control and Environmental Attitude.

Methodology

Research Model

The study's conceptual framework is illustrated in figure 1, which includes Green Brand Knowledge, Environmental Knowledge, Perceived Behavior Control, Concern of Climate Change, Environmental Attitude, Green Consumption Intention, and Green Consumption Behavior. Moreover, it incorporates E-Media as a moderating variable.

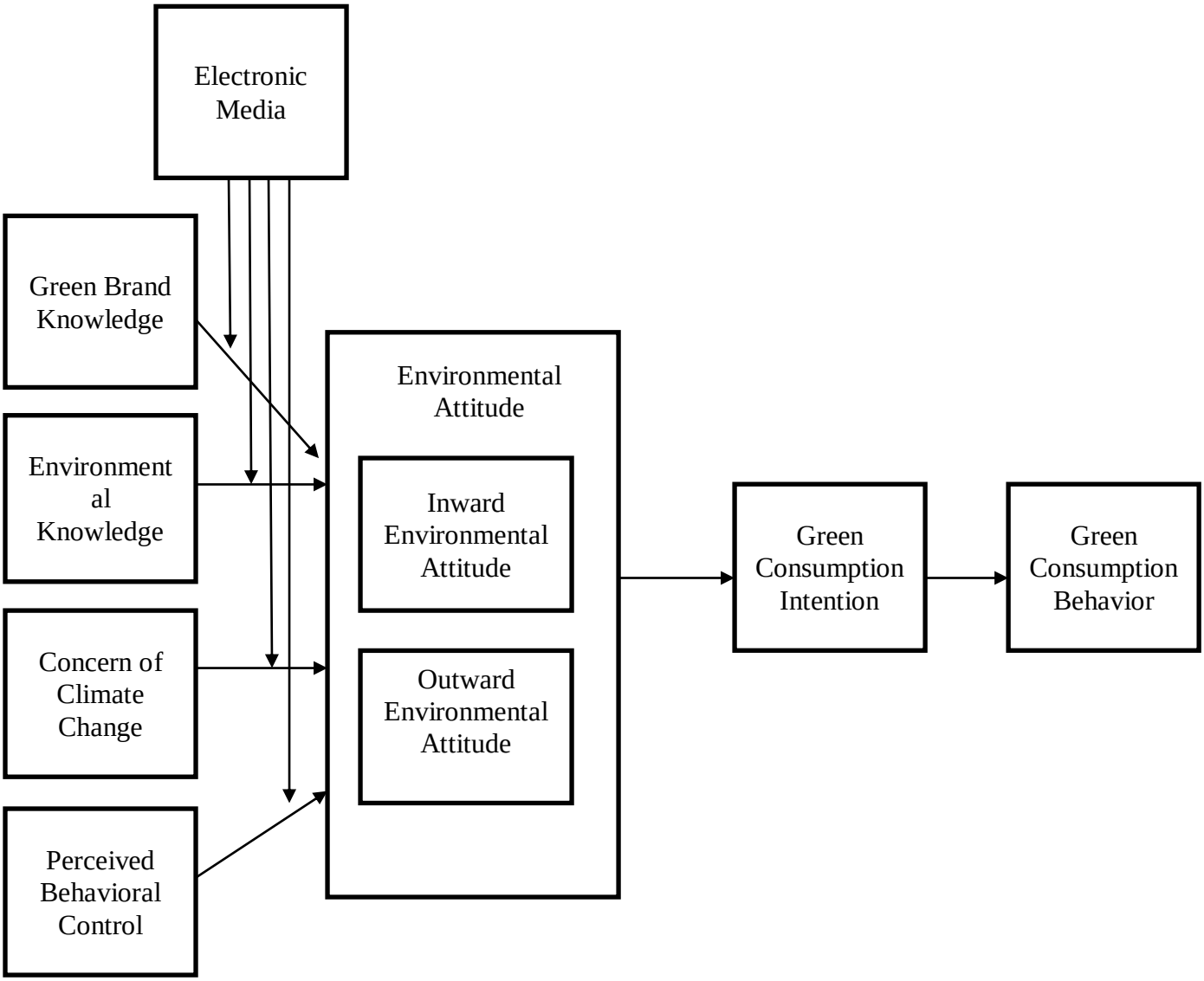

Figure-1 Conceptual Framework
Source: Authors' Construction

Data Collection and Instrumentation

The target population of the study is the youngsters of Pakistan. A 5-point Likert scale, ranging from strongly disagree (1) to strongly agree (5), served as the basis for the questionnaire. The survey was modified from earlier research. The questions of Green Consumption Intention and Behavior were adapted from (Nguyen et al., 2019). The questions of Green Brand Knowledge were adapted from (Huang et al., 2014). The questions of Environmental Knowledge were adapted from (Mostafa 2007). The questions of Concern about Climate Change were adapted from (Muhmin 2007). Items of perceived behavioral control were modified from (Chan & Lau, 2002). The scale of Media, Inward, and Outward Environmental Attitude was adapted from Trivedi (2018).

The method for gathering data that was used was convenience sampling. 34 of the 443 responses that were screened for incomplete and missing information were eliminated after the data was screened. Therefore, the study's ultimate sample size included 409 respondents. Also, a quantitative approach has been used. The study's design is correlational as we examined the relationship between different variables.

Moreover, the study has been conducted keeping in mind the ethical concerns about data gathering. No violation has been made when it comes to the confidentiality of respondents. The study makes sure the informed consent and voluntary participation of the respondents.

Demographics

Respondents' age, gender, and educational background are all included in the demographic profile. Table 1 shows that 78.5% of the sample's participants were male, while the remaining 21.5% were female. Additionally, it shows that the majority, i.e., 69.9% lie in the age bracket of 25-30 years old in terms of age. Whereas 23.7% (97) of respondents belong to the first age bracket, i.e., less than 25 years. Moreover, the rest of the participants' data is as follows: 3.2% (13) lies at the bracket of 31-36, 2.7% (11) belongs to the age group of 37-42, and the remaining two, i.e., 0.5% lie in the age bracket of more than 42 years. Concerning the education, 118 (28.9%) were undergraduate, 288 (70.4%) were graduate, 3(0.7%) were post-graduate.

Table-1 Respondents' Profile

	Frequency	Percent
Gender		
Male	321	78.5%
Female	88	21.5%
Total	409	100.0%
Education		
Undergraduate	118	28.9%
Graduate	288	70.4%
Postgraduate	3	0.7%
Total	409	100.0%
Age		
less than 25	97	23.7%
25 to 30	286	69.9%
31 to 36	13	3.2%
37 to 42	11	2.7%
More than 42	2	0.5%
Total	409	100.0

Source- Authors' Estimation

Data Analysis and Results

For data analysis, we have used structural equation modelling. SEM is a statistical method that aids in evaluating the theory's viability utilizing data and statistical information (Ringle et al., 2005). The current study evaluates the hypothetical model using the variance bases approach, which makes use of partial least squares (PLS). Using SmartPLS 3.2.9 software, the PLS-SEM gets utilized as it is thought to be appropriate for studying many contexts and cohesive models (Ringle, Wende, & Becker, 2015).

Measurement Model

Measurements of construct reliability, individual item reliability, convergent validity, and discriminant validity were made in order to assess the suitability of the model that the authors employed for this investigation. We utilized Average Variance Extract (AVE), Composite Reliability, and Cronbach's Alpha to gauge the model's competence, with 0.7, 0.7, and 0.5 as the criteria, respectively. Table 2 illustrates that every variable satisfies the requirements of Straub (1989) with a Cronbach's alpha and composite reliability of more than 0.7. According to Churchill's criterion, each variable has an individual reliability of more than 0.7 (1979). He states that every loading must be more than 0.7 and that loadings less than 0.4 must be removed. Because of their low factor loadings, we thus eliminated the following items: CCC1, CCC2, GBK1, GEK5, and GEK6. The reliability of the instrument is confirmed by loading greater than 0.7. Using average variance extracted (AVE) to evaluate convergent validity, the minimal value for each variable is 0.50, satisfying the Fornell and Larcker (1981) criterion.

Table 2-Measurement Model Results

	Items	Loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
CCC	CC3	0.864	0.796	0.880	0.711
	CC4	0.816			
	CC5	0.848			
EA	IEA1	0.756	0.908	0.925	0.608
	IEA2	0.764			
	IEA3	0.780			
	IEA4	0.797			
	IEA5	0.809			
	OEA1	0.799			
	OEA2	0.781			
	OEA3	0.748			
GBK	GBK2	0.767	0.865	0.897	0.553
	GBK3	0.740			
	GBK4	0.774			
	GBK5	0.767			
	GBK6	0.796			
	GBK7	0.733			
	GBK8	0.726			
GEK	GEK1	0.862	0.841	0.894	0.678
	GEK2	0.805			
	GEK3	0.851			
	GEK4	0.772			

GCB	**GCB1**	**0.778**	**0.807**	**0.873**	**0.631**
	GCB2	**0.808**			
	GCB3	**0.810**			
	GCB4	**0.782**			
GCI	**GCI1**	**0.850**	**0.809**	**0.875**	**0.637**
	GCI2	**0.858**			
	GCI3	**0.799**			
	GCI4	**0.719**			
MI	**MI1**	**0.904**	**0.857**	**0.913**	**0.778**
	MI2	**0.865**			
	MI3	**0.876**			
PBC	**PBC1**	**0.833**	**0.794**	**0.879**	**0.709**
	PBC2	**0.812**			
	PBC3	**0.879**			

Notes: CCC= Concern of Climate Change, EA= Environmental Attitudes, GBK=Green Brand Knowledge, GEK=Green Environmental Knowledge, GCB=Green Consumption Behavior, GCI=Green Consumption Intention, MI=Media Influence, PBC=Perceived Behavioral Control

The Heterotrait-Monotrait ratio of correlations (HTMT), the cross-loading analysis, and the Fornell and Larcker criterion are also used to evaluate this discriminant validity. Fornell and Larcker's (1981) requirement that AVE be better than correlation among the variables is met by Table 3, which displays the square root of AVE in diagonal form. Additionally, Table 4 shows loadings as well as cross-loadings. The cross-loading difference exceeds the suggested threshold of 0.1, and the items in each construct are loaded higher in their respective constructions than the other constructs (Gefen & Straub, 2005; Qazi et al., 2018). As a result, it clarifies the discriminant validity of sufficiency. The Heterotrait-Monotrait Ratio (HTMT) analysis is shown in Table 5. A threshold of 0.85 is recommended by several scholars (Raza, Qazi, & Umer, 2017; Henseler, Ringle & Sarstedt, 2015). Furthermore, it was contested by Gold et al. (2001), who suggested a value of 0.90. As a result, all HTMT readings are equal and below 0.90.

Table 3-Fornell-Larcker criterion

	CCC	**EA**	**GBK**	**GEK**	**GCB**	**GCI**	**MI**	**PBC**
CCC	**0.843**							
EA	0.684	**0.779**						
GBK	0.712	0.709	**0.744**					
GEK	0.652	0.632	0.719	**0.823**				
GCB	0.660	0.664	0.941	0.705	**0.795**			
GCI	0.685	0.665	0.719	0.652	0.715	**0.798**		
MI	0.660	0.820	0.641	0.578	0.623	0.610	**0.882**	
PBC	0.737	0.749	0.656	0.606	0.638	0.593	0.717	**0.842**

Notes: CCC= Concern of Climate Change, EA= Environmental Attitudes, GBK=Green Brand Knowledge, GEK=Green Environmental Knowledge, GCB=Green Consumption Behavior, GCI=Green Consumption Intention, MI=Media Influence, PBC=Perceived Behavioral Control

Table 4 - Loadings and Cross Loadings

	CCC	EA	GBK	GEK	GCB	GCI	MI	PBC
CCC3	**0.864**	0.578	0.603	0.567	0.562	0.569	0.533	0.611
CCC4	**0.816**	0.553	0.586	0.513	0.553	0.549	0.526	0.624
CCC5	**0.848**	0.598	0.610	0.565	0.553	0.611	0.606	0.629
IEA1	0.549	**0.756**	0.576	0.450	0.537	0.526	0.563	0.538
IEA2	0.540	**0.764**	0.547	0.500	0.513	0.502	0.576	0.680
IEA3	0.515	**0.780**	0.560	0.507	0.500	0.533	0.593	0.528
IEA4	0.455	**0.797**	0.543	0.482	0.514	0.487	0.644	0.556
IEA5	0.502	**0.809**	0.533	0.500	0.472	0.533	0.607	0.546
OEA1	0.515	**0.799**	0.524	0.476	0.523	0.475	0.647	0.572
OEA2	0.581	**0.781**	0.595	0.510	0.556	0.552	0.717	0.596
OEA3	0.597	**0.748**	0.538	0.511	0.519	0.527	0.742	0.641
GBK2	0.560	0.560	**0.767**	0.558	0.621	0.504	0.532	0.498
GBK3	0.549	0.539	**0.740**	0.522	0.571	0.498	0.462	0.469
GBK4	0.567	0.488	**0.774**	0.497	0.602	0.739	0.475	0.462
GBK5	0.503	0.556	**0.767**	0.513	0.755	0.654	0.456	0.467
GBK6	0.486	0.530	**0.796**	0.531	0.718	0.507	0.457	0.531
GBK7	0.557	0.517	**0.733**	0.567	0.806	0.519	0.506	0.524
GBK8	0.486	0.494	**0.726**	0.556	0.757	0.522	0.449	0.465
GEK1	0.586	0.552	0.624	**0.862**	0.590	0.594	0.509	0.539
GEK2	0.503	0.536	0.575	**0.805**	0.553	0.522	0.463	0.482
GEK3	0.547	0.499	0.605	**0.851**	0.594	0.560	0.461	0.502
GEK4	0.506	0.491	0.561	**0.772**	0.585	0.465	0.467	0.469
GCB1	0.540	0.543	0.772	0.547	**0.778**	0.669	0.507	0.491
GCB2	0.512	0.535	0.739	0.556	**0.808**	0.523	0.492	0.547
GCB3	0.544	0.516	0.726	0.565	**0.810**	0.514	0.507	0.508
GCB4	0.493	0.507	0.742	0.571	**0.782**	0.534	0.467	0.482
GCI1	0.492	0.529	0.580	0.501	0.498	**0.850**	0.485	0.457
GCI2	0.564	0.571	0.769	0.558	0.606	**0.858**	0.524	0.497
GCI3	0.550	0.530	0.742	0.522	0.579	**0.799**	0.467	0.466
GCI4	0.577	0.492	0.743	0.498	0.595	**0.719**	0.471	0.473
MI1	0.604	0.742	0.593	0.506	0.570	0.550	**0.904**	0.657
MI2	0.535	0.695	0.498	0.494	0.496	0.485	**0.865**	0.627
MI3	0.604	0.730	0.602	0.527	0.580	0.577	**0.876**	0.613
PBC1	0.664	0.657	0.561	0.537	0.542	0.510	0.624	**0.833**
PBC2	0.581	0.580	0.528	0.437	0.524	0.463	0.569	**0.812**
PBC3	0.612	0.649	0.566	0.549	0.545	0.522	0.615	**0.879**

Notes: CCC= Concern of Climate Change, EA= Environmental Attitudes, GBK=Green Brand Knowledge, GEK=Green Environmental Knowledge, GPB=Green Consumption Behavior, GCI=Green Consumption Intention, MI=Media Influence, PBC=Perceived Behavioral Control

Table 5 - Heterotrait-Monotrait Ratio (HTMT)

	CCC	EA	GBK	GEK	GCB	GCI	MI	PBC
CCC								
EA	0.802							
GBK	0.858	0.798						
GEK	0.795	0.722	0.843					
GCB	0.820	0.771	0.720	0.856				
GCI	0.853	0.775	0.598	0.789	0.871			
MI	0.797	0.759	0.743	0.680	0.745	0.733		
PBC	0.745	0.878	0.791	0.738	0.796	0.740	0.868	

Notes: CCC= Concern of Climate Change, EA= Environmental Attitudes, GBK=Green Brand Knowledge, GEK=Green Environmental Knowledge, GCB=Green Consumption Behavior, GCI=Green Consumption Intention, MI=Media Influence, PBC=Perceived Behavioral Control

Consequently, it can be said that the measurement model verified the discriminant and convergent validity based on the discourse presented above. It may now be applied to identify the subsequent model, which is a structural model.

Structural Model

The link between the suggested constructs is investigated through the testing of hypotheses in the structural model. Regression is used to identify the structural model. Furthermore, 0.1 is considered as the standard significance level, thus, as viewed in Table 6 that five hypotheses are accepted (H1, H2, H4, H5, H6), but H3 is rejected. On the other hand, Table 7 shows the outcomes of moderating analysis, and it shows that H7, H8, H9 are accepted, but H10 is rejected.

Table 6 - Results of Path Analysis

Hypothesis	Regression Path	Effect type	SRW	Remarks
H1	GBK -> EA	Direct Effect	0.184***	Supported
H2	GEK -> EA	Direct Effect	0.175*	Supported
H3	CCC -> EA	Direct Effect	0.039	Not Supported
H4	PBC -> EA	Direct Effect	0.224***	Supported
H5	EA -> GCI	Direct Effect	0.663***	Supported
H6	GCI -> GCB	Direct Effect	0.714***	Supported

Notes: CCC= Concern of Climate Change, EA= Environmental Attitudes, GBK=Green Brand Knowledge, GEK=Green Environmental Knowledge, GPB=Green Consumption Behavior, GCI=Green Consumption Intention, MI=Media Influence, PBC=Perceived Behavioral Control

Table 7 - Moderating Effect of Media Influence

Hypothesis	Regression Path	Effect type	SRW	Remarks
H7	GBK -> EA	Indirect Effect	0.129*	Supported
H8	GEK -> EA	Indirect Effect	0.154**	Supported
H9	CCC -> EA	Indirect Effect	0.218**	Supported
H10	PBC -> EA	Indirect Effect	0.205	Not Supported

Notes: CCC= Concern of Climate Change, EA= Environmental Attitudes, GBK=Green Brand Knowledge, GEK=Green Environmental Knowledge, PBC=Perceived Behavioral Control

Discussion

The H1 **(GBK -> EA)** is acknowledged as it illustrates the important and positive connection between green brand knowledge and environmental attitude (β=0.184, $p < 0.01$). The results are consistent with the studies (Suki, 2016; Wheeler et al., 2013). The relationship is positive as it will eventually improve their environmental attitude when there is knowledge of the green brand. Further, the generation is brand conscious, so when they have proper knowledge about green products, they are most likely to go for green branded products.

The H2 **(GEK -> EA)** demonstrates the strong and beneficial link between green environmental knowledge and environmental attitude (β=0.175, $p < 0.1$). The present research results are supported by the prior study (Law, Hills, & Hau, 2017). Also, Chen et al. (2015) research that environmental awareness has significantly affected consumer attitudes. If people in developing countries have much environmental awareness, then eventually, customers are more likely to have a positive attitude.

The H3 (**CCC -> EA)** depicts the positive but insignificant association between concern of climate change and environmental attitude (β=0.039, $p > 0.1$). The results are not similar to past studies (Ali & Ahmad, 2012; Paul et al., 2016; Trivedi et al., 2018). It shows

that the people of Pakistan are not concerned about environmental changes. In the survey, we asked different questions, and it shows that people are not worried about the present situation and how it will affect future generations. On the other hand, people believe that it's a natural phenomenon, and it does not have any association with human consumption.

The H4 (**PBC -> EA)** represents that perceived behavioral control is positively and significantly related to environmental attitude (β=0.224, $p < 0.01$). The results are inconsistent with the prior research of Kautish et al. (2019). It shows that the people of Pakistan consider that it's totally up to them whether they consume green products or not. The higher behavioral control will result in a higher attitude towards the environment.

The H5 **(EA -> GCI)** shows that there is a positive and significant association between environmental attitude and green consumption intention (β=0.663, $p < 0.01$). The results are consistent with the studies of Trivedi et al. (2018). It portrays that a higher environmental attitude will foster the green purchase intention among Pakistan's people. Once attitude is developed, so people are more intent to purchase green products.

The H6 **(GCI -> GCB)** depicts the positive and significant association between green consumption intention and green consumption behavior (β=0.714, $p < 0.01$). The results are consistent with the studies (Yadav & Pathak, 2017; Tanner & Kast, 2003; Paul et al., 2016). The conclusion suggests that consumers are more inclined to purchase eco-friendly items when they have a favourable attitude towards environmental conservation. According to Vazifehdoust et al. (2013), customers with an optimistic outlook towards environmental protection hence depict positive behavior toward the purchase of green products.

Moderating Effect of Media Influence

In Table-7, the results of the moderating variable, i.e., media influence, is presented. The H7 shows that the media moderates the association between green brand knowledge and environmental attitude (β=0.129, $p < 0.1$). No prior research used media influence as a moderating variable, so this is the first study; thus, it's the main contribution to the literature.

H7 **(GBK -> EA)** shows that consumers of Pakistan are more involved in media, and when media promotes green products, they inform the benefits of green products, strengthening the relation between green brand knowledge and environmental attitude. As we can see that after the advertising of green products such as environmentally friendly air conditions, electricity saver electronic items, the sales increase and consumers prefer to buy those products. It revealed customer attitudes were significantly impacted by environmental education. When emerging-state people have great environmental knowledge, consumers are more inclined to portray a positive attitude in the end. Thus, it is important to advertise green brands through media. Secondly, H8 **(GEK -> EA)** portrays that the relationship between green environmental knowledge and attitude is positively moderated by media influence. It means that when people listen and watch televisions or read newspapers regarding environmental degradation or rapid weather changes, it increases the knowledge that results in a higher environmental attitude. Thirdly, H9 **(CCC -> EA)** shows that this path is also positively moderated by media influence because media can change the minds of Pakistani people, and when media informs them about changes and how it is affecting them, then it will increase the concern among them. However, if we exclude media influence (As in Table-6), Pakistanis do not even bother about disastrous consequences. Hence, the media can do wonders in such a situation by spreading awareness. Lastly, H10 **(PBC -> EA)** reveals no moderating effect of media influence between perceived behavioral control and environmental attitude. This means that the media cannot regulate consumer behavior when it comes to buying or when it comes to regulating consumer behaviors. The explanation for this is that people make purchasing choices based on their convenience.

Overall, the results are consistent with the findings of previous studies. For instance, Zafar et al. (2021) also affirmed the rigorous influence of social media (usage and browsing) on the sustainable purchasing attitude. Thus, media promotes the green attitude of consumers. Similarly, Pop et al. (2020) endorsed the importance of social media in promoting the consumers' attitude and subjective norms on the green purchase intention. Likewise, social media has been a significant predictor of pro-environmental behavior and brand awareness and knowledge (Muralidhan et al., 2016); Lee & Cho, 2020; Cheung et al., 2020).

Conclusion and Policy Implications

Conclusion

Environmental change has become a severe issue in the present era. In reaction to the global warming, humans are required to follow certain things to prevent Earth. Consequently, the present study is an attempt to examine the factors that affect consumers' consumption behavior. A survey was employed as the research tool. Additionally, PLS-SEM, or structural equation modelling, was employed to examine the connection between the variables. Furthermore, the measurement model and the structural model was applied in this paper. The ten hypotheses were developed in this study, and the eighth was accepted, whereas two were rejected. Firstly, from the direct effect hypotheses, it was revealed that green brand knowledge, green environmental knowledge, and perceived behavioral control have a positive and significant association with environmental attitudes. Similarly, environmental attitudes hold a positive and significant connection with green consumption intention, leading to a positive and significant relation with green consumption behavior. However, the concern of climate change has a positive but insignificant association with environmental attitudes. Moving further, e-media moderates the relationship between green brand knowledge and environmental attitudes. Also, a moderating effect is found between green environmental knowledge and environmental attitude. Similarly, there is a moderating impact of e-media between concern of climate change and environmental attitudes. However, e-media does not moderate the association between perceived behavioral control and environmental attitudes.

Managerial Implications

The paper offers useful recommendations for consumers, businesses, government agencies, media outlets, and green marketers. First and foremost, customers who are aware of the brand and its significance are more likely to have a good attitude towards the consumption behavior, which is why having knowledge about green brands is crucial. Therefore, advertisers and businesses need to raise consumer knowledge and educate them about the benefits and drawbacks of green brands as well as how they differ from regular items. As media moderates the association between green brand knowledge and environmental attitudes, so it is an excellent opportunity to promote green brands on electronic media. Additionally, as it will appeal to customers' attitudes, marketers should also highlight the product's distinctiveness in their marketing tactics. Since a greater understanding of green environmental issues will lead to a more environmentally conscious mind-set, the media now must spread awareness through news channels and entertainment channels. In Pakistan, the viewership of plays, dramas, news channels are mostly high, so government and competitive authorities can make it a compulsion to make such stories that can play a significant role in developing environmental knowledge. Further, news channels can collect information from across the globe that how climate is being affected by non-green products and mention the facts and figures to the people. Moreover, it could be done by promoting the advantages of

green products, how they could benefit from them, and how this step will contribute to society. To increase consumer consumption of green goods, both organizations and governments should provide sound education about the value of green product consumption.
One of the main explanations for why people don't consume green product is the lack of information related to green products. Therefore, it is necessary to spread awareness among Pakistan citizens to boost the sales of green products so that our environment might get less polluted. Environmental change issues are not explicitly relevant, but there is a rise in the correlation between climate change problems and perceptions following the media's use as a moderator. It is recommended that customers be aware of incidents arising from dangerous activities. Moreover, the government should start campaigns like 'Clean and Green Pakistan'[2] and 'Sarsabz Pakistan'[3] to spread awareness and foster consumers' knowledge regarding the environment. When the media does programs so common, people will understand it and eventually boost the environmental attitude. Government, media, actors, and famous personalities must express a message about the damage caused by climate change worldwide. Moreover, they should inform familiar people in simple words through media (Television and Newspaper) about the world's problems in the future because climate change and knowledge trigger the green purchase behavior.

Future Recommendations

The present work gathered information from Pakistani consumers. Therefore, it's advisable to focus on other states and constitute thorough comprehension of media's role in green consumption behavior. In addition, other factors might be included by researchers to evaluate the association, such as religious values, celebrities' endorsement, and green campaigns. In the future, researchers can target specific green products, for instance, inverter air conditions. Lastly, a comparative analysis will be useful, so it is recommended to compare the media influence in developing and developed states.

[2] https://www.wateraid.org/pk/clean-green-pakistan
[3] https://tribune.com.pk/story/2016521/1-chief-secretary-inaugurates-sarsabz-pakistan-campaign/

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