

# Impact Of Green Marketing On Green Purchase Intention And Green Consumption Behavior: The Moderating Role Of Green Concern

<sup>1</sup>Asif Iqbal, <sup>2</sup>Dr. Syeda Quratulain Kazmi, <sup>3</sup>Adnan Anwar, <sup>4</sup>Muhammad Sufyan Ramish, <sup>5</sup>Abdul Salam

<sup>1</sup>Senior Lecturer, College of Management sciences, Karachi Institute of Economics and Technology  
[asif.cams@gmail.com](mailto:asif.cams@gmail.com)

<sup>2</sup>Assistant Professor, Institute of Business and Health Management, DOW University of Health Sciences  
[Syedakazmi44@gmail.com](mailto:Syedakazmi44@gmail.com)

<sup>3</sup>Associate Professor, College of Management sciences, Karachi Institute of Economics and Technology  
[adnananwar99@yahoo.com](mailto:adnananwar99@yahoo.com)

<sup>4</sup>Assistant Professor, College of Management sciences Karachi Institute of Economics and Technology  
[smsufyan@gmail.com](mailto:smsufyan@gmail.com)

<sup>5</sup>Lecturer, College of Management sciences, Karachi Institute of Economics and Technology  
[abdul.salam@kiet.edu.pk](mailto:abdul.salam@kiet.edu.pk)

## Abstract

**Purpose:** The main purpose of this research is to identify the rising phenomena of eco- friendly green environment in marketing domain. The research is mainly addressing the issue of how purchase intentions of eco -friendly products would develop by using green marketing tactics and how the overall consumption behavior of consumer would have turned to green consumption. In order to explore the phenomena four independent variables green products, green value, perceived consumer effectiveness, environmental sustainability is considered whereas green consumption behavior is taken as dependent variable. Green purchase intention is the mediating variable whereas green concern is considered as moderating variable.

**Methodology/Design:** This research study follows the philosophy of positivism. Moreover, explanatory research design has been posited. A self-administered questionnaire was developed and data has been collected from 383 customers.

**Approach/Sampling:** Deductive approach is considered to reach out to conclusion. Non probability convenience sampling technique is implied and for data analysis SMART PLS structural equation modelling is used.

**Results:** The study found that green product quality and green value significantly contribute to green purchase intention and green consumption behavior. At the same time, the research suggests that green product quality, green value, and environmental concern are precursors of green consumption behavior. However, perceived consumer effectiveness (PCE) was found insignificant among Pakistani citizens. In particular, Green concern moderate interaction between green purchase intention and green consumption behavior significantly. The study concluded that it is critical to educate Pakistani citizens at all levels about

the importance of environmental education and to put forward initiatives to boost green behavior and promote green marketing.

**Keywords/ Acronyms:** Green product quality(GPQ), green purchase intention(GPI), green concern(GC), green value(GV), green marketing(GM), environmental sustainability(ESus), consumer behavior(CB)..

## 1.0 Introduction

Corporations and consumers are paying more attention to green consumerism as a result of the oil crisis and rising environmental concerns. Consumers are willing to purchase green products because of environmental concerns. In response to the rising demand for green consumption, businesses are creating green marketing strategies to show consumers their positive corporate image and social responsibility. When companies "promise greater environmental benefit than they provide," consumers may view green marketing as "greenwashing" (Dahl, 2010).

Businesses try to draw clients by delivering eco-friendly or green products in response to the growing trend of environmental protection. However, the true value of green production can only be realized by connecting client purchasing intentions with environmental protection objectives (Silva et al. 2021). Green products stand out because they are recyclable, have minimal pollution and toxicity levels, and conserve resources (including energy and water) (Sun et al., 2018). The many motives that influence consumer purchasing behavior are all included in product purchase intention, which can forecast actual purchasing behavior. According to Li et al., (2021) the term "green product purchase intention" refers to customers' propensity to choose items with the best environmental attributes over more conventional ones. It also includes a variety of motives brought on by actions.

According to Minbashrazgah et al (2017) the practice of green consumption and use of environmentally favorable products which do not

threaten the natural system has expanded and consumers have been actively participating in green behavior in terms of their consumption and daily use.

Recent studies have been actively focusing on green product utilization and analysis of the green product industry. Over the past few years, green awareness among the population has introduced the concept of green consumption in the mainstream market. The surge in ecological concern and green awareness has derived policymakers to promote green behavior which proposes a meaningful effect on the environment. Therefore, this behavior will help reduce waste (Ogiemwonyi et al., 2020) and will promote a healthier lifestyle. However, a person of awareness exhibits form behavior about their healthy contribution to sustaining the environment would be committing to buy green products only including recyclable products, energy conserves, and naturally grown food this type of pressure items that will help protect the environment is generally referred to as green consumer (Ogiemwonyi & Harun, 2021).

Companies are participating in green product awareness campaigns to increase public awareness about consuming products that are favorable to the environment with a motive to make a customer who supports this program buy the green that brands offer. Hence, to fulfill this purpose, companies must address the factors impacting consumers' green purchase intention (Keni et al., 2020). This ultimately mediates the green consumption behavior among consumers. According to Kumar and Anand (2013) organizations are reconsidering their products and services based on environmental conservation. Products that are environmentally

friendly incorporate jute bags, CFL bulbs, battery-run cars, natural soaps, eco-accommodating paper, paper cups, energy-saving electronic items, natural food, and so on, and showcasing of such sustainable items is known as green product marketing. Marketers are using various advertising strategies focused on altering consumers to induce a shift in consumer purchase intention to make consumers buy the green product by advertising a product's green features. For instance, Toyota makes it certain to highlight Prius' low emissions and fuel consumption by claiming that the car offers environmental benefits whereas Tesla and BMW are often reluctant to share such information and are more focused on creating awareness about the performance of their product. Such strategies focus on behavior and consumer purchase intention by making green attributes of products prominent. These examples illustrated two entirely different advertising strategies which are termed green emphasis and understatement, the former strategy highlights the environmental benefits of the products called explicit signals. The latter strategy inhibits the prominence of such characteristics known as implicit signals. Previous studies conducted in marketing and advertising record the ultimate need of applying marketing strategies to assess consumer behavior and consumer attitude (Usrey et al., 2020), and point to the direction that this choice is always related to reasonable conclusions made based on green products performance ability (Newman, Gorlin, & Dhar 2014). Studies conducted have focused entirely on either one of the constructs but the collective impact is yet to be measured. A common explanation for the increase in Green consumer behavior refers to the social and moral standards that green products are concerned with. Literary terms such as goodness and virtue play a vital role in the prospect of marketing green products for the reason that contributes to the welfare of the environment and humanity is linked with virtue and goodness. Previous

research explores the influence of moral identity on green consumer behavior and involvement (Spielmann, 2020) which indicates that green concern either positively or negatively influences the relationship between green purchase intention and green consumption behavior.

## **2.0 Literature Review**

### **2.1 Theory of Planned Behavior**

The TBP model has proven to be highly essential in measuring an individual's intention to participate in environmentally favorable behaviors. Steg and Vlek (2009) define environmentally favorable behaviors as "behaviors that do not pose any harm to the environment". Such behaviors include several actions, for example, the consumption of products cordial to the environment, consuming environmentally friendly goods and services, natural products, and managing waste materials for recycling purposes (Park & Ha, 2014). This research has been conducted about the intention and behavior of consumers concerning the use of green products.

Previously the literature has paid sufficient attention to a variety of products and services that are environmentally friendly such as electricity-saving products (Ha & Jhanda, 2012), green services sector (Kun- Shan & Teng, 2011), and gave calculated proofs about their availability and predictions for calculating the purchase intention and purchase behavior of ecological products which explains that the constructs of theory of planned behavior; attitude, subjective norm and perceived behavioral control impacts consumer's intention of green products purchase significantly. However, in some cases (Kim et al., 2013) the variables of the theory of planned behavior partially or fully supported the intention and attitudes of consumers. This explains that the TBP variables attitude, subjective norm, and perceived behavioral control play an extremely crucial part in evaluating the purchase intention

of consumers to purchase green products (Yadav & Pathak, 2016).

### **Value Belief Norm Theory**

The theory of value belief and norms suggested that values impact belief, which is operationalized via environmental global, which as a result affects awareness of behavioral consequences, a supposition of responsibility which links with personal norms and behavior, and at last forecasts behavior. Values have variable natures and they change over time that is why VBN theory is not very useful for environmental policies and their implementations. However, conflicting using values rather than environment interchangeably would be useful for analyzing influences of environmental knowledge and behavior Brown & Kasser, (2005).

### **2.2 Green Product Quality and Green Purchase Intention**

The ultimate goal of any production line is to develop products of quality that conform to the expectation of consumers. It is vital to set up a well-developed production procedure by customer needs, product design, and the manufacturing process (Li, Chang, Chen & Liu, 2010). Product quality is an essential element when it comes to generating satisfaction and loyalty (chang & Fong, 2010). Johnson and Kliener (1993) explained the quality of any product in context with its performance, which is termed as the level of customization and perfection or the reliability of the product. The product quality attributes include its packaging, design, features, guarantees, etc (Abdul-Muhmin, 2002). Any product which is of high quality can attract an increased amount of acceptance from its consumers together with leading to elevated satisfaction levels for retailers (Schellhase et al., 2000). Product quality has a direct relationship with its performance and life which is linked to satisfaction and loyalty leading to increasing purchase intention of consumers (Eskildsen et al.,

2004). Likewise, numerous studies support the strong relationship between product quality and purchase intention. These studies prove that by maintaining the quality of a product, customer satisfaction and loyalty would be generated which increased the level of consumer purchase intention (Kotler et al., 2005). Amidst the concept of environmentalism and international regulations about sustaining the environment, companies should not only focus on embodying the green features in their products, design, and package but should focus on making their product distinguished; they should likewise fulfill the ecological expectation of their customers and generate a higher level of customer satisfaction and competitive advantage (Chang & Fong, 2010).

Consumers' knowledge about the quality of the product has always been centered on such quality attributes of the product that can be individualized as user quality or technical quality, such as product performance, convenience, and durability. However, over the years several discussions in the context of environmental threats related to consumer products became evident. However, it steered clear of the consciousness of consumers that consumption and discarding of any product together with its production and distribution may pose a threat to natural systems. Hence, in some cases, it might be highly appreciated to highlight the general facts about product quality, the attributes, and the direction of green product quality which is defined as the capability of a product to in preserving the natural environment and must contain relevant attributes (Imkamp, 2000).

H1: Green product quality has a positive and significant impact on consumer green purchase intention.

## 2.3 Green Value and Green Purchase

### Intention

According to Liao Wu and Pham (2020), an environmentally conscious consumer prefers to buy environmentally favorable products only. The term green consumer refers to an individual who gives preference to utilizing products that are valuable to the environment (Mostafa, 2007; Lee, 2009). Oftentimes, the decision to buy a product is based on its value which is an important factor that influences purchase intention (Li & Cai, 2012; Hanaysha, 2018). Green value reflects what consumer perceives about green products value (Song et al., 2019). Chen and Chang (2012) argue that “green perceived value is an overall assessment of a consumer’s actual income of a product or the service.” Green value is one of the crucial factors that impact green consumption behavior (Koller, Floh & Zauner, 2011). The intention to purchase and consume the green product is an important indicator when it comes to evaluating green consumption behavior, it represents an individual's will to buy the product based on its value (Al-Gasawneh & Al-Adamat, 2020). Through careful analysis of several studies, it has been found that the green value of a product acts as the core element that influences green purchase intention and green consumption behavior (Suki & Suki, 2019; Ahmed & Zhang, 2020; Liao Wu and Pham, 2020) hence:

H2: Green value has a positive and significant impact on green purchase intention.

## 2.4 Perceived Consumer Effectiveness and Green Purchase Intention

Perceived consumer effectiveness was initially explained by Kinnear et al. (1974). This concept goes back to the 1970s and is described as a consumer's effective behavior. Perceived consumer effectiveness proposes the belief that a consumer's behavioral patterns prove to be effective in solving issues (Aksoy & Kabadayi,

2021). The consumers actively take part in conserving the environment by making effective purchase decisions, this belief develops the intention to purchase green (Kanchanapibul, et al, 2014). In the same manner, several findings indicate that consumer who possesses increased perceived consumer effectiveness reflects a higher level of green purchase intention and green consumption behavior (Zinoubi, 2020). This literature review brings us to the hypothesis that:

H3: Perceived consumer effectiveness has a positive and significant impact on green purchase intention.

## 2.5 Environmental Sustainability and Green Purchase Intention

Research in the context of sustainability found a lack of focus on the social perspective of sustainability (Kumar et al., 2017). Environmental sustainability is the means of improving the natural ecological systems or maintaining them. Environmental sustainability is explained as a manner that helps enhance the well-being of the planet by sustaining raw materials that are essential for human life which works as antecedent. Several studies performed in the context of sustainability found two dimensions of sustainability which includes social sustainability and environmental sustainability and explained their association with one another. The study argues that to take necessary actions it is important to have some basic or initial knowledge about the issue Steg et al. (2014) report that several factors generate feelings of responsibility towards conserving the environment (panda et al., 2019). People who hold high consumer effectiveness standards believe themselves to be highly valuable when it individual to their ability to reduce pollution in the environment comes to the improvement of environmental issues therefore these individuals are most likely to engage in behaviors that reflect

their respect towards the environment (Wang, Nguyen & Xiangzhi, 2020). Jaiswal and Kant (2018) found that individuals who believed in their effective behavior towards the environment tend to hold high green purchase intentions. Due to this reason, such green consumers are actively participating in environmentally sustainable practices. Whereas environmental issues are on the increase, similarly consumer awareness about green products is also increasing (Liao, 2018; Qiu, Hu & Wang, 2020). Hence we propose the following hypothesis:

H4: Environmental sustainability has a positive and significant impact on green purchase intention.

## **2.6 Green Purchase Intention Green Consumption Behavior**

One important factor that influences consumer purchase decisions is motivation (Yii, Shein, & Ming, 2020). Whitlark, Geurts, and Swenson (1993) defined purchase intention as the intention of buying a product after careful its careful examination (Bhaskar & Kumar, 2016). It has been reported that consumer intention and actual behavior are two elements that can be interchanged (AL-Obaidi & AlHaidous, 2020). Goh and Balaji (2016) described green purchase intention as a consumer's motivation to acquire green products rather than easily available goods. Green purchase intention is linked to consumers' preference to purchase green and create awareness and pay premiums (Al-Majali & Tarabieh, 2020).

H5: Green purchase intention has a positive and significant impact on green consumption behavior.

## **2.7 The Moderating Role of Green Concern**

The green concern is also termed environmental concern and environmental consciousness. The green concern is generally described as an

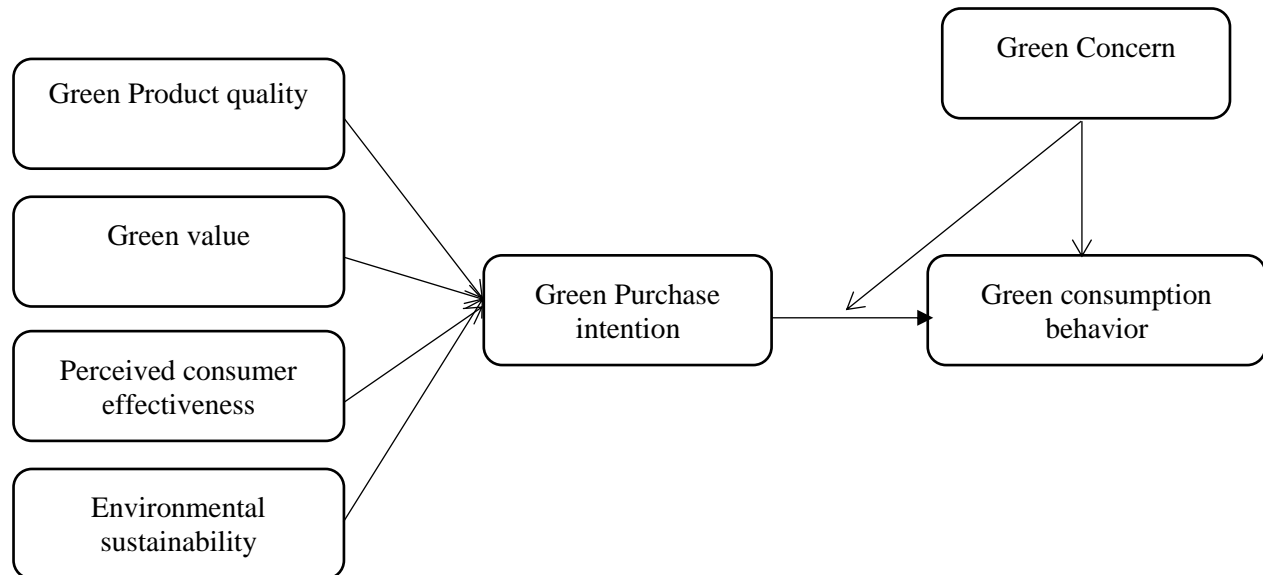
individual's conscious concern about ecological problems and their eagerness to participate in bringing a solution to ecological problems (Dunlap & Jones, 2002). Numerous authors developed a relationship between green concerns and eco-friendly behavior. Green concern can be characterized as the emotion and the level of knowledge together with the eagerness to alter behavior. Kim and Choi (2005) enlightened the fact that those consumers who are worried about environmental problems willingly take part in purchasing green products as compared to those who are less concerned (Akehurst & Goncalves, 2012).

Numerous studies have pointed out that green concern impacts pro-environmental behavior either directly or indirectly (Zhang & Huang, 2019), whereas how it moderates is rarely mentioned. Consumers' level of green concern is reflected in their consumption behavior in terms of green products (Chan and Lau, 2000). According to Biswas and Roy (2015) "Consumers with high green concern tend to have a strong sense of environmental responsibility and actively engage in environmentally friendly activities" for instance, it has been reported that green concern positively impacts consumers' green purchasing attitude and intention. According to Paul et al. (2016), green concern has a positive relation with consumer green purchase intention and consumer green consumption behavior. Consumers with an increased level of green concern are perceived to develop green consumption behavior, execute such behaviors, and address environmental problems during the course of their consumption (Riva et al., 2022).

H6: Green concern positively moderates the relationship between green purchase intention and green consumption behavior.

H7: Green Concern has a positive and significant impact on green consumption behavior.

### Conceptual Framework



### 3.0 Methodology

#### 3.1 Data Collection and Sampling

The research philosophy of this study is “positivism”. The research is explanatory in nature and holds a deductive approach. Close-ended type of questionnaire was utilized to collect data from the sample population. The questions were answered using 5-point Likert scales ranging from strongly agree to strongly disagree. Data collection through the questionnaire method was determined for the reason of convenient evaluation and analysis of answers and ease of acquisition (Ngwenya & Aigbavboa, 2017). The geographical population of the study is 16,094,000 people in Karachi. The population consulted is the general public to see their views and perception about the green product. The sample size is calculated by G-Power.

The present research utilized non – probability sampling. In non – probability sampling, all the individuals cannot participate in the research. This opposes the likelihood testing technique where the entire population participates in the

research either complete participation or partial participation. The reason for the use of non – probability sampling can be clarified on the basis that for certain researchers it is difficult to attain irregular probability-based examples of the population because of time and cost limitations. In such a case, segments of individuals are determined to evaluate individual judgment. Non – probability sampling utilizes the absolute judgment of individuals, also it is the most supportive quantitative method of research (Saunders and thorn hill, 2012) the collected data will be analyzed by using SmartPLS software. Data will further be illustrated through graphical representation i.e. tables and charts. To analyze data consistency Questionnaire will be thoroughly examined. Based on the responses of individuals, questionnaire items will be grouped and assigned codes for efficient data handling using SmartPLS software.

#### 3.2 Measurement

The table represents the respondent's profile consisting of their age and gender which is present in the first section of a questionnaire distributed among consumers of green products.

Respondents of age 18 – 24, 25 – 34, 35 – 44, and 45+ participated in the questionnaire. The table consists of a frequency column that highlights the percentage of individuals who participated in the questionnaire and further highlights the highest percentage of the age group. However, the highest number of respondents belonged to the age group of 18 – 24, a relative percentage of 66.1 %, and 24.1% of participants belongs to the age group of 25 – 34. 7.1% belonged to the age group of 35 – 44 and 2.75% of the respondents were 45+ years of age and least participated in the questionnaire. Because the target audience is based on consumers of green products,

individuals of age 18 – 24 are keener to conserve the environment and play their part by consuming environment-friendly products.

The data suggests that 56.9% of females participated in the questionnaire which suggests that 218 female participants in total, where the percentage of male participants is 43.08% which concludes that 165 male participants actively participated in the study. The results explain the number of green product consumers and how their quality and considerations generate consecutive consumption patterns in both genders.

**Table: 1** Respondents Profile

	Frequency	Percentage
<b>Gender</b>		
Male	165	43.08%
Female	218	56.91%
<b>Age group</b>		
26 to 31 years	73	19.0%
32 to 36 years	120	31.3%
37 to 41 years	190	49.0%
<b>Income in PKR</b>		
1000 to 25000	145	38.0%
25001 to 50000	35	9.1 %
50001 to 75000	54	14.0%
75001 to 100,000	24	6.2 %
100,001 to 125000	35	9.1 %
125001 or More	90	23.5%
<b>Qualifications</b>		
Matric	30	7.83%
Intermediate	39	10.1%
Bachelors	147	38.3%
Masters	155	40%
M.Phil	12	3.1%



The demographic profile of respondents depicts the gender, age, income level, and qualification of the respondent. According to the table, 43% of males and 56% of females participated in the survey. 19% belong to 31 years of age, 31% belong to 32-36 years, and 49% belong to 37-41 years of age. The earning respondents share is 38% earn up to 25K, 9.1% earn up to 50K, 14% earn up to 75K, 6.2% earn 100,000, 9.1% earn 125K, and 23.5% earn more than 125K. However, the education level they share is, 7.8% just 10<sup>th</sup> standard, 10.1% cleared intermediate, 38.3% are bachelor, 40% have done Master and 3.1 % have done their MPhil

### 3.3 Result and data analysis

Statistical results are obtained using SmartPLS software to find out the significant values of the

indicators. Furthermore, statistical tools such as descriptive, convergent, reliability and validity, discriminant validity, and path coefficients are utilized to measure constructs. Similarly, measurement and structural models helped describe statistical values as per the results of the calculation. This study considered all the details to provide comprehensible information which led the study to a commendable conclusion to help provide future recommendations.

Figure 2: Measurement Model

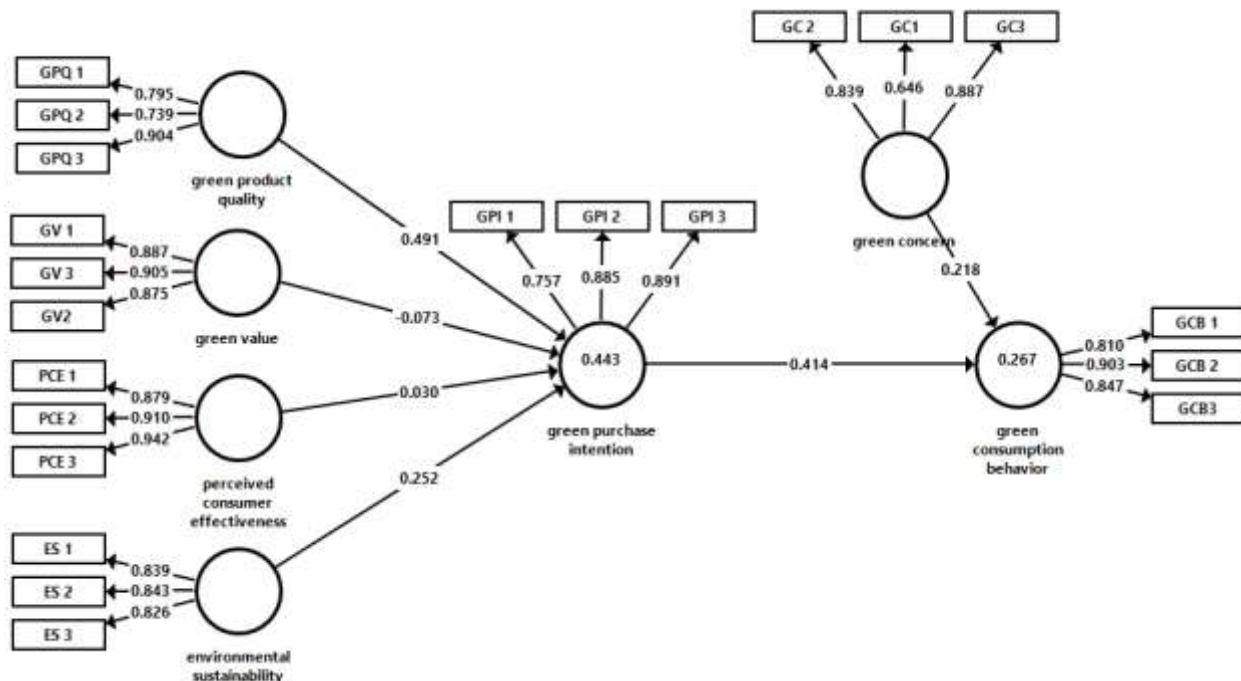


Table 2 Measurement model results

Constructs	Outer loading	Cronbach's Alpha	Rho_A	Composite Reliability	(AvE)
ES	0.839 0.843 0.826	0.788	0.798	0.875	0.699
GC	0.839 0.646 0.887	0.727	0.830	0.837	0.636
GCB	0.810 0.903 0.847	0.813	0.819	0.890	0.729
GPI	0.757 0.885 0.891	0.763	0.907	0.855	0.665
GPQ	0.795 0.739 0.904	0.800	0.815	0.883	0.717
GV	0.887 0.905 0.875	0.868	0.878	0.919	0.790
PCE	0.879 0.910 0.942	0.898	0.905	0.936	0.830

**Note:** CR = Composite Reliability; AVE = Average Variance Extracted

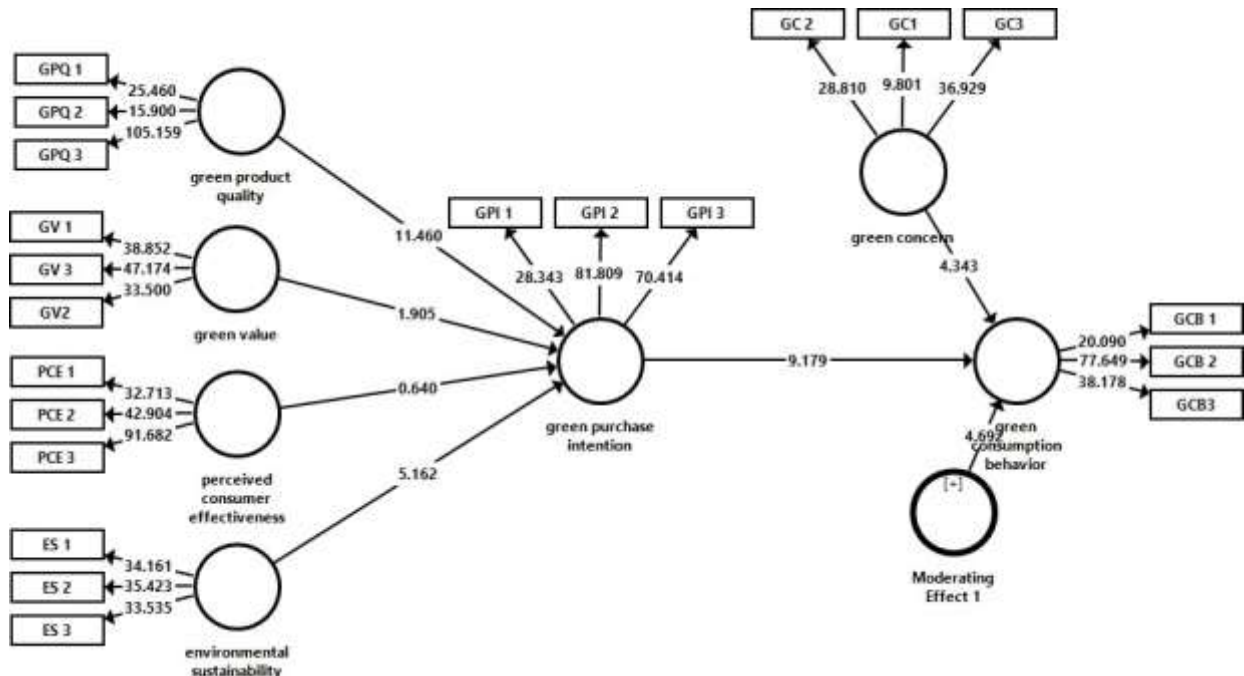


Figure 3: Structural Model.

3.4 Validity and Reliability Analysis

It explains the results to finalize the strongest relationship of reflective constructs with other variables in the path model (Hair et al., 2022). The analysis of Discriminant validity is

performed through Fornell & Larcker analysis, and cross-loading analysis. The value of composite reliability represented is greater than 0.7 hence significant and reliable (Hair, et al. 2017),

Table 2: Discriminant validity

Latent Variables	1	2	3	4	5	6	7
Environmental Sustainability	0.836						
Green Concern	0.326	0.797					
Green Consumption Behavior	0.254	0.328	0.854				
Green Product Quality	0.347	0.301	0.436	0.815			
Green Purchase Intention	0.451	0.265	0.472	0.610	0.847		
Green Value	-0.216	-0.081	-0.225	-0.259	-0.260	0.889	
Perceived Consumer Effectiveness	0.417	0.404	0.340	0.444	0.366	-0.172	0.911

### 3.5 Structural Model Analysis

The structural model analysis is performed to examine the predictability of the constructs hypothesis and their relationship with the help of covariance structure analysis. Table 1.5 represents the results of the

structural model analysis performed to evaluate prediction confidence and examine the constructs' hypothesized relationships through covariance structure analysis. The structural model's results are illustrated in Table

**Table 3: a structural model analysis**

Constructs	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
H1: Moderating Effect 1 -> Green Consumption Behavior	0.199	0.196	0.043	4.572	0.000
H2: Environmental Sustainability -> Green Purchase Intention.	0.252	0.253	0.050	5.009	0.000
H3: Green Concern -> Green Consumption Behavior	0.201	0.206	0.048	4.152	0.000
H4: Green Product Quality -> Green Purchase Intention.	0.491	0.488	0.043	11.369	0.000
H5: Green Purchase Intention -> Green Consumption Behavior.	0.408	0.411	0.045	9.145	0.000
H6: Green Value -> Green Purchase Intention	-0.073	-0.075	0.040	1.843	0.066
H7: Perceived Consumer Effectiveness -> Green Purchase Intention	0.030	0.031	0.050	0.610	0.542

### 3.6 Conclusion

The present study contributes to the body of green marketing knowledge in the context of developing countries like Pakistan. Understanding the buying behavior of green products is very interesting because green product quality, and environmental sustainability builds green value and becomes a consideration for choosing and purchasing green products. The importance of green concern is considered critical in the marketing strategy. This study explores the effect of green PQ, GV, PCE, and ESus on green purchase intention by considering the moderating role of green concern. The result shows that green product quality and value significantly contribute to green purchase intention and consumption behavior. At the same time, the research suggests that green product quality, green value, and environmental concern are precursors of green consumption behavior. However, perceived consumer effectiveness (PCE) was insignificant among Pakistani citizens. In particular, Green concern moderate interaction between green purchase intention and green consumption behavior significantly. The study concluded that it is critical to educate Pakistani citizens at all levels about the importance of environmental education and to put forward initiatives to boost green behavior and promote green marketing.

### 4.0 Discussion

The major objective of the study was to evaluate factors that impact green purchase intention and green consumption behavior based on a theory of planned behavior and the theory of value, norms, and beliefs previous studies have focused on these two cognitive behaviors but the research was limited to individual behaviors only. However, this study measures the mediating impact of green purchase intention on the dependent variable green consumption behavior under the moderating impact of green concern.

The relationship between independent constructs (green product quality, green value, perceived consumer effectiveness, and environmental sustainability) and dependent constructs (green consumption behavior) is significant and positive which authenticates previous literature. The study further suggested that based on the value and perceived effectiveness, the participation of individuals in sustaining the environment is high (H1, H2, H3, and H4). The results of the hypotheses are consistent. H5 also confirms that dependent variables (green product quality, green value, environmental sustainability, and perceived consumer effectiveness) are also good predictors.

### 4.1 Managerial Implications

This research suggests some implications for the manufacturers and consumers of green products. Organizations should pay significant attention to all the captions to develop and maintain a significant relationship between consumers and manufacturers. The green industry should focus more on providing quality green products and come up with unique ideas to help promote environmental sustainability. They should also encourage the use of green and should use their position to promote green values among the population. Conducting seminars related to green product and their benefits would also encourage consumers and manufacturers to play their part wisely in sustaining the environment. Universities should design the platform's promotion of green consumption.

### 4.2 Limitations of the Study

This study contains some limitations in terms of the conceptual model and the research hypotheses, which provide significant insights for future research directions. Despite these limitations, the study nevertheless provides valuable information. First, future research may find more factors that influence the green purchase intention. This study only focuses on the mediating role of green purchase intention and

the moderating role of green concern, neglecting other potential mediating and moderating processes, such as green skepticism and environmental knowledge. Second, this study focuses primarily on the Pakistani context, which may not be applicable to other nations; therefore, comparative studies with diverse cultural contexts and environmental situations should be pursued in the future. Lastly, the variables of cognition and intention were the only ones that were investigated in this study; demographic factors were ignored. The intention to buy environmentally friendly products might be tied to a number of different demographic factors. Hence, demographic characteristics such as gender, education level, income level, and marital status should be included in future studies as antecedents of the propensity to purchase environmentally friendly products. In addition, the findings of other cultural dimensions that were used as moderating variables will also be valuable, and they ought to be taken into consideration in future research.

## REFERENCES

1. Abdul-Muhmin, A. G. (2002). Effects of suppliers' marketing program variables on industrial buyers' relationship satisfaction and commitment. *Journal of Business & Industrial Marketing*.
2. Ahmad, W., & Zhang, Q. (2020). Green purchase intention: Effects of electronic service quality and customer green psychology. *Journal of Cleaner Production*, 267, 122053.
3. Akehurst, G., Afonso, C., & Gonçalves, H. M. (2012). Re-examining green purchase behavior and the green consumer profile: new evidence. *Management decision*, 50(5), 972-988.
4. Cavdar Aksoy, N., Tumer Kabadayi, E., Yilmaz, C., & Kocak Alan, A. (2021). A typology of personalization practices in marketing in the digital age. *Journal of Marketing Management*, 37(11-12), 1091-1122.
5. Alagarsamy, S., Mehroliya, S., & Mathew, S. (2021). How green consumption value affects green consumer behavior The mediating role of consumer attitudes towards sustainable food logistics practices. *Vision*, 25(1), 65-76.
6. Al-Gasawneh, J., & Al-Adamat, A. (2020). The mediating role of e-word of mouth on the relationship between content marketing and green purchase intention. *Management Science Letters*, 10(8), 1701-1708.
7. Al-Majali, M., & Tarabieh, S. (2020). Effect of internal green marketing mix elements on customers' satisfaction in Jordan: Mu'tah University students.
8. Barr, S., & Gilg, A. (2006). Sustainable lifestyles: Framing environmental action in and around the home. *Geoforum*, 37(6), 906-920.
9. Bhaskar, P. P., & Kumar, D. P. (2016). Customer loyalty on e-commerce. *International Journal of Management Research and Reviews*, 6(12), 1661.
10. Biswas, A., & Roy, M. (2015). Leveraging factors for sustained green consumption behavior based on consumption value perceptions: testing the structural model. *Journal of Cleaner prProduction* 95, 332-340.
11. Brown, K. W., & Kasser, T. (2005). Is psychological and ecological well-being compatible? The role of values, mindfulness, and lifestyle. *Social indicators research*, 74(2), 349-368.
12. Chan, R. Y., & Lau, L. B. (2000). Antecedents of green purchases: a survey in China. *Journal of consumer marketing*, 17(4), 338-357.

13. Chang, C. S., Sun, H. L., Lii, C. K., Chen, H. W., Chen, P. Y., & Liu, K. L. (2010). Gamma linolenic acid inhibits inflammatory responses by regulating NF- $\kappa$ B and AP-1 activation in lipopolysaccharide-induced RAW 264.7 macrophages. *Inflammation*, 33, 46-57.
14. Chang, N. J., & Fong, C. M. (2010). Green product quality, green corporate image, green customer satisfaction, and green customer loyalty. *African journal of business management*, 4(13), 2836.
15. Chang, N. J., & Fong, C. M. (2010). Green product quality, green corporate image, green customer satisfaction, and green customer loyalty. *African journal of business management*, 4(13), 2836.
16. Chen, Y. S., & Chang, C. H. (2012). Enhance green purchase intentions: The roles of green perceived value, green perceived risk, and green trust. *Management Decision*, 50(3), 502-520.
17. Clark, L. A., & Watson, D. B. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, 7, 309–319. <http://dx.doi.org/10.1037/1040-3590.7.3.309>
18. Dahl, R. (2010). Green Washing: Do You Know What You're Buying? *Environmental Health Perspectives* 118(6):A246-52.
19. Dunlap, R. E., & Jones, R. E. (2002). Environmental concern: Conceptual and measurement issues. In R. E. Dunlap & W. Michelson (Eds.), *Handbook of environmental sociology* (pp. 482–524). Westport, CT: Greenwood Press.
20. Eskildsen, J., Kristensen, K., Jørn Juhl, H., & Østergaard, P. (2004). The drivers of customer satisfaction and loyalty. The case of Denmark 2000–2002. *Total Quality Management & Business Excellence*, 15(5-6), 859-868.
21. Ghali-Zinoubi, Z. (2020). Determinants of consumer purchase intention and behavior toward green product: The moderating role of price sensitivity. *Archives of Business Research*, 8(1), 261-273.
22. Goh, S. K., & Balaji, M. S. (2016). Linking green skepticism to green purchase behavior. *Journal of Cleaner Production*, 131, 629-638.
23. Ha, H.Y., Janda, S., 2012. Predicting Consumer Intentions To Purchase Energy-Efficient Products. *Journal Of Consumer Marketing*, 29(7), 461– 469.
24. Hair, J., Hollingsworth, C. L., Randolph, A. B., & Chong, A. Y. L. (2017). An updated and expanded assessment of PLS-SEM in information systems research. *Industrial management & data systems*.
25. Hair Jr, J. F., Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2017). *Advanced issues in partial least squares structural equation modeling*. Sage publications.
26. Hair, J.F., Hult, G.T.M., Ringle, C.M. and Sarstedt, M. (2022), *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, Sage, Thousand Oaks, CA
27. Hanaysha, J. R. (2018). An examination of the factors affecting consumer purchase decision in the Malaysian retail market. *PSU Research Review*, 2(1), 7-23.
28. Hauser, M., Nussbeck, F. W., & Jonas, K. (2013). The impact of food-related values on food purchase behavior and the mediating role of attitudes: A Swiss study. *Psychology & Marketing*, 30(9), 765–778.
29. Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing

- discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, 43, 115-135.
30. Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, 43, 115-135.
31. Imkamp, H. (2000). The interest of consumers in ecological product information is growing evidence by two German surveys. *Journal of Consumer Policy*, 23(2), 193-202.
32. Jaiswal, D., and R. Kant. 2018. "Green Purchasing Behaviour: A Conceptual Framework and Empirical Investigation of India Consumers." *Journal of Retailing and Consumer Service* 41 (2018): 60-69. <https://doi.org/10.1016/j.jretconser.2017.11.008>.
33. Jia Yii, W., Hui Shein, W., & Winnie Poh Ming, W. (2020). Green products purchase intention: a study of SIBU SARAWAK. *E-BANGI: Jurnal Sains Sosial Dan Kemanusiaan*, 17(1).
34. Johnson, R. D., & Kleiner, B. H. (1993). Does higher quality mean higher cost? *International Journal of Quality & Reliability Management*.
35. Joshi, Y., & Rahman, Z. (2015). Factors affecting green purchase behavior and future research directions. *International Strategic management review*, 3(1-2), 128-143.
36. Kanchanapibul, M., Lacka, E., Wang, X., & Chan, H. K. (2014). An empirical investigation of green purchase behavior among the young generation. *Journal of cleaner production*, 66, 528-536.
37. Keni, K., Asali, A., Teoh, A. P., & Muthuveloo, R. (2020, December). Factors Influencing Green Purchase Intention. In *The 2nd Tarumanagara International Conference on the Applications of Social Sciences and Humanities (TICASH 2020)* (pp. 1015-1022). Atlantis Press.
38. Kim, Y. J., Njite, D., & Hancer, M. (2013). Anticipated emotion in consumers' intentions to select eco-friendly restaurants: Augmenting the theory of planned behavior. *International journal of hospitality management*, 34, 255-262.
39. Kim, Y., & Choi, S. M. (2005). Antecedents of green purchase behavior: An examination of collectivism, environmental concern, and PCE. *ACR North American Advances*.
40. Kinnear, T. C., Taylor, J. R., & Ahmed, S. A. (1974). Ecologically concerned consumers: who are they? Ecologically concerned consumers can be identified. *Journal of marketing*, 38(2), 20-24.
41. Kline, R. (2011). *Principles and Practice of Structural Equation Modeling*, 3rd edn Guilford Press. New York
42. Koller, M., Floh, A., & Zauner, A. (2011). Further insights into the perceived value and consumer loyalty: a "green" perspective. *Psychology & Marketing*, 28(12), 1154-1176. <http://dx.doi.org/10.1002/mar.20432>
43. Kong, W., Harun, A., Sulong, R. S., & Lily, J. (2014). The influence of consumers' perception of green products on green purchase intention. *International Journal of Asian Social Science*, 4(8), 924-939.
44. Kotler P, Armstrong G, Saunders J, Wong V (2005). *Principles of Marketing*, Third European Edition. Essec. London: Prentice Hall Europe.



45. Kumar, B., Manrai, A. K., & Manrai, L. A. (2017). Purchasing behavior for environmentally sustainable products: A conceptual framework and empirical study. *Journal of Retailing and Consumer Services*, 34, 1-9.
46. Kumar, P. K., & Anand, B. (2013). Green Marketing: Theory, Practice, and Strategies. *Indian Journal of Marketing*, 43(1), 54-56.
47. Kun-Shan, W., & Teng, Y. (2011). Applying the extended theory of planned behavior to predict the intention of visiting a green hotel. *African Journal of Business Management*, 5(17), 7579-7587.
48. Lee, K. (2009). Gender differences in Hong Kong adolescent consumers' green purchasing behavior. *Journal of consumer marketing*, 26(2), 87-96.
49. Li, G., Yang, L., Zhang, B., Li, X., & Chen, F. (2021). How do environmental values impact green product purchase intention? The moderating role of green trust. *Environmental Science and Pollution Research*, 28, 46020-46034.
50. Li, M., & Cai, L. A. (2012). The effects of personal values on travel motivation and behavioral intention. *Journal of Travel Research*, 51(4), 473-487
51. Liao, X. (2018). Public appeal, environmental regulation and, green investment: Evidence from China. *Energy Policy*, 119, 554-562.
52. Liao, Y. K., Wu, W. Y., & Pham, T. T. (2020). Examining the moderating effects of green marketing and green psychological benefits on customers' green attitude, value, and , purchase intention. *Sustainability*, 12(18), 7461.
53. Liao, Y. K., Wu, W. Y., & Pham, T. T. (2020). Examining the moderating effects of green marketing and green psychological benefits on customers' green attitude, value, and, purchase intention. *Sustainability*, 12(18), 7461.
54. Minbashrazgah, M. M., Maleki, F., & Torabi, M. (2017). Green chicken purchase behavior: the moderating role of price transparency. *Management of Environmental Quality: An International Journal*.
55. Moisander, J. (2007). Motivational complexity of green consumerism. *International journal of consumer studies*, 31(4), 404-409.
56. Mostafa, M. M. (2007). Gender differences in Egyptian consumers' green purchase behavior effects environmental knowledge, concern, and, attitude. *International journal of consumer studies*, 31(3), 220-229.
57. Newman, G. E., Gorlin, M., & Dhar, R. (2014). When going green backfires: How firm intentions shape the evaluation of socially beneficial product enhancements. *Journal of Consumer Research*, 41(3), 823-839.
58. Ngwenya, L., & Aigbavboa, C. (2017). Improvement of productivity and employee performance through efficient human resource management practices. In *Advances in Human Factors, Business Management, Training and, Education: Proceedings of the AHFE 2016 International Conference on Human Factors, Business Management and, Society*, July 27-31, 2016, Walt Disney World®, Florida, USA (pp. 727-737). Springer International Publishing.
59. Ogiemwonyi, O., & Harun, A. B. (2020). Consumption of green products as a means of expressing green behavior in emerging economies: with the case study of Malaysia. *Environment and Urbanization ASIA*, 11(2), 297-312.

60. Ogiemwonyi, O., & Harun, A. B. (2021). Theory of planned behavior approach to understand pro-environmental behavior of young green consumers in Malaysia. *Israel Journal of Ecology and Evolution*, 67(3-4), 168-181.
61. Ogiemwonyi, O., Harun, A. B., Alam, M. N., Karim, A. M., Tabash, M. I., Hossain, M. I., ... & Ojuolape, M. A. (2020). Green products as a means of expressing green behavior: cross-cultural empirical evidence from Malaysia and Nigeria. *Environmental Technology & Innovation*, 20, 101055.
62. Panda, M., Pradhan, P., Mohapatra, H., & Barpanda, N. K. (2019). Fault-tolerating in heterogeneous environment. *International journal of scientific & technology research*, 8(8), 1009-1013.
63. Park, J., & Ha, S. (2014). Understanding consumer recycling behavior: Combining the theory of planned behavior and the norm activation model. *Family and consumer sciences research journal*, 42(3), 278-291.
64. Paul, J., Modi, A., & Patel, J. (2016). Predicting green product consumption using theory of planned behavior and reasoned action. *Journal of retailing and consumer services*, 29, 123-134.
65. Qiu, L., Hu, D., & Wang, Y. (2020). How do firms achieve sustainability through green innovation under external pressures of environmental regulation and market turbulence?. *Business Strategy and the Environment*, 29(6), 2695-2714.
66. Riva, F., Magrizos, S., Rubel, M. R. B., & Rizomyliotis, I. (2022). Green consumerism, green perceived value, and restaurant revisit intention: Millennials' sustainable consumption with moderate dating effect of green perceived quality. *Business Strategy and the Environment*, 31(7), 2807-2819.
67. Schellhase, R., Hardock, P., & Ohlwein, M. (2000). Customer satisfaction in business-to-business setting: The case of retail organizations and their suppliers. *The Journal of Business and Industrial Marketing*, 15(2-3), 106-121.
68. Silva, A.; Luo, L.; Karunasekera, S.; and Leckie, C. 2021. Supplementary Materials for Embracing Domain Differences in Fake News: Cross-domain Fake News Detection using Multimodal Data. arXiv e-prints arXiv:2102.06314.
69. Song, Y., Guo, S., & Zhang, M. (2019). Assessing customers' perceived value of the anti-haze cosmetics under haze pollution. *Science of the Total Environment*, 685, 753-762.
70. Spielmann, N. (2020). Green is the New White: How Virtue Motivates Green Product Purchase. *Journal of Business Ethics*, 173(4), 759-776.
71. Steg, L., & Vlek, C. (2009). Encouraging pro-environmental behavior: integrative review and research agenda. *Journal of environmental psychology*, 29(3), 309-317.
72. Steg, L., Bolderdijk, J. W., Keizer, K., & Perlaviciute, G. (2014). An integrated framework for encouraging pro-environmental behavior: role of values, situational factors, and goals. *Journal of Environmental Psychology* 104-115.
73. Suki, N. M., & Suki, N. M. (2019). Examination of peer influence as a moderator and predictor in explaining green purchase behavior in a developing country. *Journal of Cleaner Production*, 228, 833-844.
74. Sun, Y., Zheng, L., Yang, Y., Tian, Q., & Wang, S. (2018). Beyond part models:

- Person retrieval with refined part pooling (and a strong convolutional baseline). In Proceedings of the European conference on computer vision (ECCV) (pp. 480-496).
75. Tarabieh, S. M. Z. A., Gil-Pechuan, I., Al-Obaidi, M. G., & Al-Haidous, A. I. A. H. (2020, April). The Impact of Website Quality on Online Impulse Buying Behavior: Moderating Effects of Age and Price. In The 2020 WEI International Academic Conference Proceedings (pp. 11-16).
76. Usrey, B., Palihawadana, D., Saridakis, C., & Theotokis, A. (2020). How Downplaying Product Greenness Affects Performance Evaluations: Examining the Effects of Implicit and Explicit Green Signals in Advertising. *Journal of Advertising*, 49(2), 125–140.
77. Veleva, V., & Ellenbecker, M. (2001). Indicators of sustainable production: framework and methodology. *Journal of cleaner production*, 9(6), 519-549.
78. Wang, J., Nguyen, N., & Bu, X. (2020). Exploring the roles of green food consumption and social trust in the relationship between perceived consumer effectiveness and psychological being. *International journal of environmental research and public health*, 17(13), 4676.
79. Whitlark, D. B., Geurts, M. D., & Swenson, M. J. (1993). New product forecasting with a purchase intention survey. *The Journal of Business Forecasting*, 12(3), 18.
80. Wijekoon, R., & Sabri, M. F. (2021). Determinants that influence green product purchase intention and behavior: A literature review and guiding framework. *Sustainability*, 13(11), 6219.
81. Wijekoon, R., & Sabri, M. F. (2021). Determinants that influence green product purchase intention and behavior: A literature review and guiding framework. *Sustainability*, 13(11), 6219.
82. Yadav, R., & Pathak, G. S. (2016). Young consumers' intention towards buying green products in a developing nation: Extending the theory of planned behavior. *Journal of Cleaner Production*, 135, 732-739.
83. Zhang, J., & Huang, R. (2019). Employees' pro-environmental behaviors (PEBs) at international hotel chains (IHCs) in China: The mediating role of environmental concerns (ECs). *Journal of Hospitality and Tourism Management*, 39, 129-136.