

## Green Buying Behavior in Pakistan: An Empirical Study

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### Abstract

*The aim of this research work is to determine the green buying behavior of consumers with their determinants by using theory of planned behavior in Pakistan. In this article, framework is modified by adding age, gender and education as moderators and its moderating effects is determined between purchase intention and purchase behavior. We gathered data from 250 respondents of different age brackets. We used online questionnaire method for the collection of data. Our research design is quantitative. To check proposed framework, we have utilized PLS and SPSS software. We used the structural modeling techniques and bootstrapping procedure to test hypothesis. The findings show that environmental concerns, perceived value and willingness to pay are predictor of purchase intention and purchase behavior. While personal norm is not a predictor of purchase intention and purchase behavior. Lastly moderators do not moderate the relationship between purchase intention and purchase behavior. This study is helpful for marketers and advertisers so that they used this research for creating awareness among people about green buying products to make the eco-friendly environment which is beneficial for the sustainability and the welfare of the society. This research shows the importance of theory of planned behavior while describing the green buying behavior or intentions towards the eco-friendly products. This study has a contribution in the research literature by including moderating effects of age, gender and education in the green buying behavior framework. This study is conducted in a different context of Pakistan.*

**Keywords** - Environmental concern, perceived value, personal norms, willingness to pay, purchase intention, age, gender, education, green purchase behavior.

## **Introduction:**

Continuous increase in pollution is creating many difficulties and alarming situations in Pakistan cities. In order to deal with these issues, one of the possibilities is to go green. Because of pollution crises, now everyone wants that there should be some steps taken to reduce pollution and they are ready to make contribution in reducing pollution (Zheng et al.,2020). The green consumption means the use of environmentally friendly products. This concept is emerging now because of its importance with respect to helping to protect natural resources, environment and making contributions for sustainability.

Consumption of green products is arising as an opportunity for the marketers that in result making effective path to sustainable marketing, which ultimately affects and alter the consumer needs and preferences. Their needs and preferences are being modified in one way or the other through such type of marketing activities. Several companies are focusing on green product development because of eco-friendly trend. That's why marketers are more concerned about green consumption patterns of consumers and their reasons for swapping to green products. This study will help you to understand and analyse the motives of PI and purchase behavior of a consumer in Pakistan. Millennials known as young generation vary in behavioral aspects as compared to other people. Because they are highly concerned about the environment and have sturdier preferences and willingness to purchase eco-friendly products (Kumar,2021). Millennials have become an apple of an eye for the marketers because this segment is consisting of more than 60% of the total population in Pakistan.

The framework of research is based on the TPB which examine the effect of PI towards green products on different variables like ENC, perceived value, personal norms and willingness to purchase. This research determines the behavior of people towards the green products in developing countries. It is helpful for marketers and advertisers to strategize their green marketing endeavors in a correct way.

## **Theoretical Framework & Research Hypothesis:**

TPB explain that individual's behavior is determines by their attitudes, subjective norms and perceived behavioral control. Attitude alludes to a person's good and bad appraisal of execution of concerned behavior. Subjective norm alludes to special social pressure towards the execution and non-execution of a specific conduct (Ajzen, 1991). Performance of a particular behavior of any past event and foreseen obstacles which is apparently seen as simple or may be difficult (time, cash, opportunity) is belongs to the perceived behavioral control (Ajzen, 1991). Intension is viewed as a quick antecedent to conduct and is characterized as a person's availability to play out a given behavior (Ajzen, 1991). To examine the green buying behavior and intention of a consumers generally theory of planned behavior (TPB) is used.

In this paper we check the validity of theory of planned behavior which emerged into a major framework for understanding, analysing and varying the human behaviour, by analysing ENC as an important part of attitude which refers to degree to which consumer have an effective evaluation of behaviour than consent and condemnation of peers and willingness to pay as perceived behaviour control which means consumer has a perception about ease and difficulty in action. It varies from situation to situation (Woo & Kim,2019). Willingness to pay is also considered for price sensitive consumers. In this we also include that how consumers are intended to buy and behave in such situations. Furthermore, we added another variable named as perceived value in our model. Perceived value is crucial in finding out the relationship between the intention and behaviour because value is preferred over materiality. If consumption of green products is not satisfying, then they will switch towards other products other than green products and they will surely quit to intend and buy green products. The next section explains each variable in detail.

### **ENC:**

ENC means that to what level people are aware about issues that are resulting from pollution crisis. This includes that how much people are ready to provide support in order to solve and overcome these problems. ENC also shows willingness of people that how eagerly they are ready to make personal contribution to reduce pollution (Policarpo & Aguiar,2020). Authors have said that there is both direct and indirect effect of ENC on PI by creating positive attitude for green products. They further added that those consumers who are environmentally concerned, they have favorable viewpoint for energy preservation, which ultimately develop positive attitude for green buying behavior. Studies have done research work with consumers of America and through results they said that consumers who have concern about environment, they prefer to use green products. Further authors have done research in London, and from there the respondents were women and they evaluated that when people have concerns to save environment then its results into eco-friendly buying behavior.

Many studies represented same results after conducting research with Spanish respondents that there is impact of environmental consciousness on PI. Bhutto et al. (2019) had done research in Taiwan and expressed that ENC have great impact on attitudes, values and subjective norms and that ultimately trigger PI. Han (2020) also done research in Egyptian customers and analyzed that ENC has a huge impact on people purchase pattern and in order to save environment people are preferring green products. Do Paço et al. (2019) also support the positive relation between ENC and choosing green products. They analyzed that people who are conscious about environment; they are having green purchase behavior.

### **Personal Norms:**

People's ethical norms and commitments to take part in the concerned conduct shows the personal norms. Research on Swedish purchasers revealed that innovations that are environmentally friendly was examine by natural qualities and standards. Another study conducted by Nosi, et al.

(2020) demonstrated that individual qualities and standards play a noteworthy role in exploring the environmentally friendly behavior of a Danish consumers. Furthermore, Amoako et al. (2020) demonstrated a significant relationship between personal norms and PI for things with eco-friendly packaging. In comparison, many studies failed to demonstrate a link between youth personal norms and green purchasing behavior in India's urban areas. Personal norms have a positive effect on behavior, which has been experimentally demonstrated in the fields of green mobility (2010) and energy efficient goods.

**Perceived value:**

Perceived value is consumers perception about the product depending upon its functionality (Chen & Zhang,2021). Perceived value also depicts the amount of money which is paid by the consumer for a product. Significantly, perceived value is become an integral part of decision-making model and finding out their actual intention and behaviour . In study of Naz et al. (2020) it plays a significant role between intention and buying behaviour. While in Hameed et al. (2021) perceived value is accounted for environmental responsibility. Another study of Naz et al. (2020) also states perceived value as crucial aspect of altering buying behaviour and switching to environmentally friendly products i.e., green products. Perceived value is a concept related to subject which has distinct attributes for each product. Clark et al. (2019) concluded that perceived value is linked with attitude of consumer by comparing performance with price of product. Sadiq et al. (2021) also concluded that perceived value is an assessment procedure. It signifies the role of marketer and customer.

**Willingness to Pay Premium:**

People who prefer green products, they have to pay high prices for them as compare to traditional products. Green products are costly because of their efficient production procedures. In Pakistan, people are highly sensitive about product prices. Price is one of the main factors on which green buying behavior depends. Price is the main barrier that restricts people to choose green products. Youngsters mostly have limited purchasing power, so in their scenario price is main factor to make decision regarding green products (Sadiq et al.,2021). There is mixed of literature about price and its impediment nature, some say that price is hurdle while some do not support this view. Such as, done research with Swedish consumers and concluded that price is not a hurdle for making decision regarding green product. If people are truly concern about environment, then they will buy green products.

Environmentally concerned people are not conscious about price of green product, for them price is not hurdle as long as they are agreed to pay extra for green products. They are ready to make tradeoff between huge expenses and benefits to environment. Authors said that environmentally concerned people are ready to pay high prices for green products. While on a contrary side, said that people in US are reluctant to pay extra for environmentally friendly products. Studies

highlighted that people who take care about environment, they want to select hotels who are having green practices in their operations but at the same time people are not willing to pay extra prices about for green services (Soomro et al.,2020). So, there are mixed views, some said price is hurdle while some do not support this finding.

**PI:**

Intention refers to a mental state that drives a person to act in a certain way. Intentions include things like the ability or willingness to perform, as well as the exertion power that a person is prepared to use. Intent cannot be proven without the drive to act on it. The TPB defines "execution" as the process of bringing about an outcome through the use of one's own free will. Multiple studies have discovered an indisputable link between consumer intent to purchase and actual behaviour. According to research done by Casas and Chinoperekweyi (2019) on Indian consumers, those with a higher level of behavioural intention also tend to make more environmentally friendly purchases. Eco-friendly goods were the subject of this comment.

We proposed the following hypothesis from framework:

**H1.** There is positive but significant relationship between ENC and purchase behavior.

**H2.** There is positive but significant relationship between personal norms and purchase behavior.

**H3.** There is positive but significant relationship between perceived value and purchase behavior.

**H4.** There is positive but significant relationship between willingness to pay and purchase behavior.

**H5.** There is positive relationship between ENC and PI.

**H6.** There is positive relationship between personal norms and PI.

**H7.** There is positive relationship between perceived value and PI.

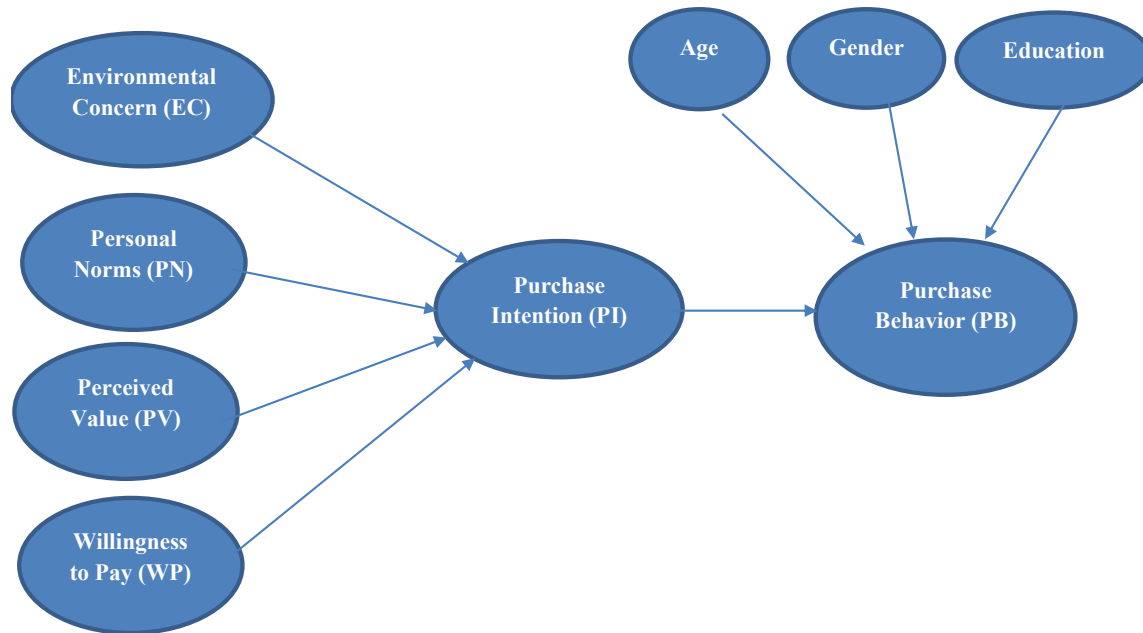
**H8.** There is positive relationship between willingness to pay and PI.

**H9.** Age moderates the relationship between PI and purchase behavior.

**H10.** Education moderates the relationship between PI and purchase behavior.

**H11.** Gender moderates the relationship between PI and purchase behavior.

**H12.** There is positive relationship between PI and purchase behavior.



**Figure1: Conceptual Frame work**

**Research Methodology:**

Our research is based on cross sectional study and research design is quantitative. We used nonprobability sampling technique, in which we have chosen convenience sampling for collection of data. Data was gathered through online questionnaire survey and questionnaire was based on closed ended questions. The questionnaire is sent through emails in the month of August and September 2019. We sent follow-up emails as well just for reminder. Data was consisting of 250 responses after removing extreme outliers. Majority of responses are gathered from females (58.4 percent) and male (41.6 percent). With regards to age, (84.0 percent) of the responses are belongs to age group 15-25years, (15.2 percent) belongs to the age bracket of 26-35years, (.4 percent) were belongs to 36-45 and 46-55 age group. As to education, 55 percent respondents pursuing post graduate degree, 41 percent are graduate degree holder, 1.2 percent are diploma holders, 2.0 percent are high school going and only .4 percent are PhD. holders. In table you can see computation.

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**Table1: Demographical Analysis**

<b>Description</b>	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Percent</b>
<b>Gender</b>			
Male	104	41.6	41.6
Female	146	58.4	100.0
<b>Age</b>			
18-25 years	210	84.0	84.0
26-35 years	38	15.2	99.2
36-45 years	1	.4	99.6
46-55 years	1	.4	100.0
<b>Education</b>			
High School	5	2.0	2.0
Certificated/Diploma	3	1.2	3.2
Undergraduate Degree	103	41.2	44.4
Postgraduate	138	55.2	99.6
PhD	1	.4	100.0
<b>Occupation</b>			
Unemployed Student	176	70.4	70.4
Private Sector Employee	39	15.6	86.0
Public Sector Employee	13	5.2	91.2
Self-Employed/Own Business	22	8.8	100.0
<b>Marital Status</b>			
Bachelor	187	74.8	74.8
Engaged	33	13.2	88.0
Married	30	12.0	100.0
<b>Monthly Family Income</b>			
Less than 15000 PKR	32	12.8	12.8
15001-30000 PKR	35	14.0	26.8
30001-50000 PKR	55	22.0	48.8
50001-100000 PKR	70	28.0	76.8
More than 100000 PKR	58	23.2	100.0
<b>Total</b>	<b>250</b>	<b>100</b>	<b>100</b>

**Measures:**

All independent, dependent and mediator variables are measured by using five item scales. Such as for ENC, five item scale is adopted from and this is used by Das and Nayyar (2020). Personal norms, willingness to pay and purchase behavior also measured by 5 item scales. Next for perceived value, from Talwar et al. (2021), the five-item scale is used. For research, we have done modification in research framework. We added three moderators in framework. For moderators we have selected age, gender and education. By adding moderators, we analyzed their moderating effects between mediator and dependent variable.

**Control variables:**

This study included and asked of the participants questions about their ages, genders, marital statuses, educational levels, monthly family incomes, and occupations. The gender of a person was coded as 1 (male) or 2 (female), their age as 1 (18-25), 2 (26-35), 3 (36-45), 4 (46-55), 5 (56-65), and 6 (over 65), and their marital status as 1 (single), 2 (engaged), 3 (married), 4 (separated/divorced), or 5 (other) (Widowed). 1 denotes a monthly income of less than 15,000 Pakistani Rupees (PKR), 2 a monthly income of between 15,000 and 30,000 PKR, 3 a monthly income of between 35,000 and 100,000 PKR, and 4 a monthly income of between 50,000 and 1,000,000 PKR (Retired). We have assigned each variable a unique code for your convenience and to help you gain a better understanding of the connections between the variables.

**Data Analysis:**

We examined the convergent and discriminant validity analysis. All hypotheses were tested by structural modeling technique. Measurement model was tested through algorithm procedure. We construct reliability and validity analysis. All these analyses are done on PLS software. We also used SPSS software for demographic and correlation analysis.

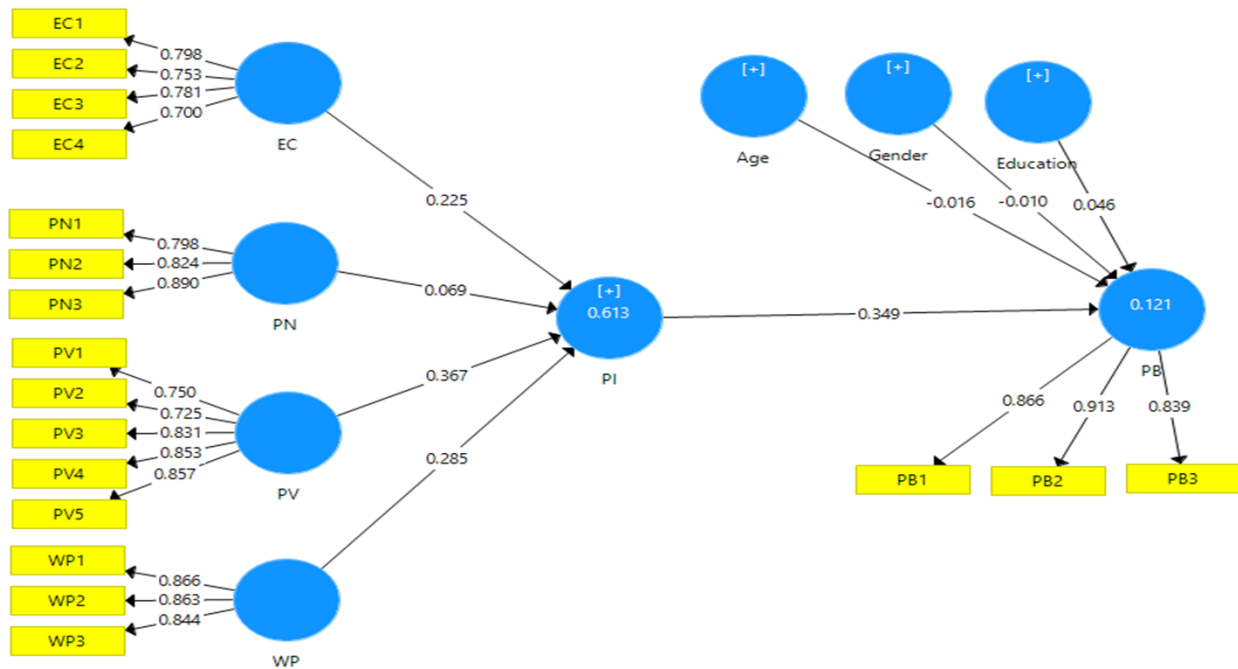
**Results:**

This section includes measurement model, convergent reliability & validity, discriminant validity, correlation analysis, structural model,  $R^2$ ,  $Q^2$ , total indirect effects and path coefficients computations.

**Measurement Model:**

The nine-factor was tested by using PLS software. This model analysis is used to measure the relationship between construct and items. The construct that has above 0.708 loadings are recommended because they show the 50 percent of indicator's variance, which means the construct is acceptable.





**Figure2: Measurement Model**

**Convergent Reliability and Validity:**

Reliability is checked through internal consistency and highly relatable items of the construct. AVE (Average variance extracted) measures convergent validity. Cronbach alpha is used as a measure of internal consistency. The value of Cronbach alpha of 0.60 is acceptable. Higher the value of Cronbach alpha higher the reliability of each construct. In this table the values for all the constructs are greater than 0.06 which means it is more reliable and have internal consistency among items of constructs. All the values are greater than 0.06 and between 0.84(ENC) to 1 (age, gender and education). This is also known as composite reliability. All the values of loadings are within acceptable limits, and they are significant at 0.001 levels. High values of composite reliability with respect to its factor loading also confirms the convergent validity of the given data. Additionally, (AVE) average variance extracted of value greater than 0.05 and composite reliability greater than AVE confirms the convergent validity. In this table we have value of AVE greater than 0.05 which ranges between 0.576-1 and composite reliability is greater than all the respective values of AVE. So that we conclude that there is a convergent validity in our collected data.

**Table 2: Convergent Reliability & Validity**

Construct	Items	Loadings	AVE	CR
Age		1	1	1

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<b>ENC</b>	<b>EC1</b>	0.798	0.576	0.844
		0.753		
	<b>EC2</b>	0.781		
	<b>EC3</b>	0.7		
	<b>EC4</b>			
<b>Education</b>		1	1	1
<b>Gender</b>		1	1	1
<b>Purchase Behavior</b>	<b>PB1</b>	0.866	0.762	0.906
		0.913		
	<b>PB2</b>	0.839		
	<b>PB3</b>			
<b>PI</b>	<b>PI1</b>	0.769	0.633	0.896
		0.722		
	<b>PI2</b>	0.809		
		0.826		
	<b>PI3</b>	0.846		
	<b>PI4</b>			
	<b>PI5</b>			
<b>Personal Norm</b>	<b>PN1</b>	0.798	0.702	0.876
		0.824		
	<b>PN2</b>	0.89		
	<b>PN3</b>			

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<b>Perceived Value</b>	<b>PV1</b>	0.75	0.649	0.902
		0.725		
	<b>PV2</b>	0.831		
	<b>PV3</b>	0.853		
	<b>PV4</b>	0.857		
	<b>PV5</b>			
<b>Willingness to Pay</b>	<b>WP1</b>	0.866	0.736	0.893
		0.863		
	<b>WP2</b>	0.844		
	<b>WP3</b>			

**Discriminant Validity:**

Discriminant validity is used to analyze that either the measurements that are not supposed to relate with each other are unrelated or not. We used Fornell and Larker approach to analyze results. In following table each bold loading of constructs is greater that shows that all values have strong discriminant validity. So, from both convergent validity & reliability and discriminant validity tables, we conclude that our data is valid and reliable.

*Table 3: Discriminant Validity*

	<b>Age</b>	<b>EC</b>	<b>Education</b>	<b>Gender</b>	<b>PB</b>	<b>PI</b>	<b>PN</b>	<b>PV</b>	<b>WP</b>
<b>Age</b>	<b>1</b>								
<b>EC</b>	0.022	<b>0.759</b>							
<b>Education</b>	0.184	-0.015	<b>1</b>						
<b>Gender</b>	-0.022	-0.022	0.075	<b>1</b>					
	0.022								
<b>PB</b>	0.016	0.169	0.021	-0.007	<b>0.873</b>				

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<b>PI</b>	0.066	0.59	-0.061	-0.005	0.345	<b>0.795</b>			
<b>PN</b>	0.045	0.661	0.023	0.027	0.249	0.549	<b>0.838</b>		
<b>PV</b>	0.098	0.515	-0.009	0.018	0.446	0.701	0.55	<b>0.805</b>	
<b>WP</b>	0.09	0.457	-0.037	0.036	0.433	0.652	0.456	0.634	<b>0.858</b>

**Correlation Analysis:**

Correlations analysis measure the association among variables.

Table 4: *Latent Variable Correlations*

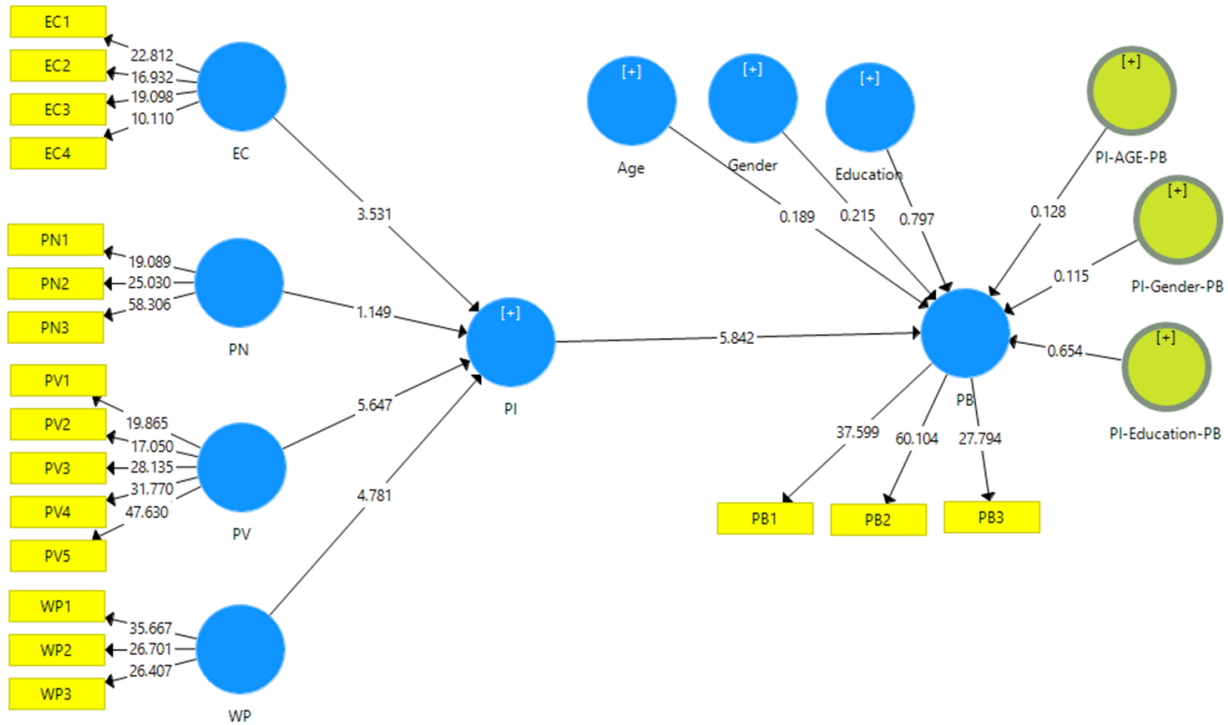
<b>Constructs</b>	<b>EC</b>	<b>PN</b>	<b>PV</b>	<b>WP</b>	<b>PI</b>	<b>PB</b>
<b>ENC</b>	<b>1</b>					
<b>Personal Norms</b>	<b>.662</b>	<b>1</b>				
<b>Perceived Value</b>	.506	<b>.545</b>	<b>1</b>			
<b>Willingness to pay</b>	.457	.452	<b>.623</b>	<b>1</b>		
<b>PI</b>	.589	.546	.687	<b>.652</b>	<b>1</b>	
<b>Purchase Behavior</b>	.154	.236	.431	.431	<b>.327</b>	<b>1</b>

The analysis shows that ENC has a strong correlation of (.662) with personal norms. Perceived value had positive correlation of (.506) with ENC and also indicates the strong relationship. Willingness to pay and ENC has positive but moderate correlation of (.457). It also shows a positive and strong correlation of (.589) between ENC and PI. Purchase behavior is also positively correlated with ENC.

We see positive correlation between all variables like personal norms are positively correlated as (.545) with perceived value. Perceived value has a strong correlation of (.623) with willingness to pay. PI is also positively correlated as (.652) with willingness to pay and it is also strong. Purchase behavior has positive but moderate correlation of (.327) with PI and vice versa. It is examined that each variable is solidly connected.

**Structural Model:**

We used the structural model to test the computed hypothesis. All variables are denoted as latent construct.



**Figure 3: Structural Model**

**R<sup>2</sup> Results:**

This value analyzes the variance in dependent variable which is explained by other variables such as independent or others present in model. The results from R<sup>2</sup> shows that all independent variables such as **ENC**, willingness to pay, personal norms and perceived values determine 61.3% of variance in **PI** (R<sup>2</sup> = 0.613). Next Purchase behavior's R<sup>2</sup> value is 0.122, which means that **PI** explains 12.2% of variance in purchase behavior. The value of purchase behavior is weak while the value of **PI** is substantial.

*Table 5: (R<sup>2</sup>)*

Latent Variable	(R <sup>2</sup> )
<b>Purchase Behavior</b>	0.122
<b>PI</b>	0.613

**Q<sup>2</sup> Result:**

Through Q<sup>2</sup>, predictive relevance is assessed. This measure evaluates that how strongly independent variables, mediators or moderators have power to predict dependent variable. To compute Q<sup>2</sup>, we used blindfolding in PLS software. The Q<sup>2</sup> value should be greater than zero,

which means model have predictive relevance. If  $Q^2$  is less than 0 then model lacks predictive relevance.

*Table 6: Predictive Relevance Assessment*

<b>Total</b>		<b>SSO</b>	<b>SSE</b>	<b>1-SSE/SSO</b>
<b>Purchase Behavior</b>	750	695.229		0.073
<b>PI</b>	1,250.00	800.447		0.36

The results show that for both variables such as purchase behavior and PI,  $Q^2$  is greater than 0. Purchase Behavior's  $Q^2$  is 0.073 and for PI,  $Q^2$  is 0.36. Both these values show that all independent variables have power to predict PI and further PI as a mediator have power to predict purchase behavior. This ultimately means that model have good predictive relevance.

**Total Indirect Effects:**

Through bootstrapping procedure in PLS, total indirect effects are examined which measure the indirect effects of predictor variables on purchase behavior. One tailed test is used. Total 5000 samples of bootstrap were requested to compute total indirect effects.

*Table 7: Total Indirect Effects*

<b>Hypothesis</b>	<b>Relationship</b>	<b>Std. Beta</b>	<b>Std. Error</b>	<b>t-Value</b>	<b>Decision</b>
<b>H1</b>	<b>EC -&gt; Purchase Behavior</b>	0.077	0.024	3.234**	<b>Supported</b>
<b>H2</b>	<b>PN -&gt; Purchase Behavior</b>	0.024	0.023	1.05	<b>Not Supported</b>
<b>H3</b>	<b>PV-&gt; Purchase Behavior</b>	0.127	0.034	3.756**	<b>Supported</b>
<b>H4</b>	<b>WP -&gt; Purchase Behavior</b>	0.098	0.028	3.542**	<b>Supported</b>

\*\*p<0.01, Results are significant with 1 tail where:  
*T values >1.96 (p values < 0.01)*

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The results show that ENC, perceived value and willingness to pay have significant indirect effect on purchase behavior while personal norms do not have significant indirect effects on purchase behavior. This is evident from t values. So, H1, H3 and H4 are supported while H2 is not supported because its t value is less than 1.96.

**Path Coefficients:**

Path coefficient analysis is used to check the direct effect of variables. The value of standardized beta shows multicollinearity effect. The T-value should be 1.96 or above and is considered accepted.

*Table 8: Path Coefficients*

<b>Hypothesis</b>	<b>Relationship</b>	<b>Std. Beta</b>	<b>Std. Error</b>	<b>t-Value</b>	<b>Decision</b>
<b>H5</b>	<b>EC -&gt; PI</b>	0.225	0.067	3.369**	<b>Supported</b>
<b>H6</b>	<b>PN -&gt; PI</b>	0.069	0.061	1.117	<b>Not Supported</b>
<b>H7</b>	<b>PV -&gt; PI</b>	0.367	0.066	5.545**	<b>Supported</b>
<b>H8</b>	<b>WP -&gt; PI</b>	0.285	0.059	4.862**	<b>Supported</b>
<b>H9</b>	<b>PI-AGE-PB -&gt; PB</b>	-0.012	0.09	0.129	<b>Not Supported</b>
<b>H10</b>	<b>PI-Education-PB -&gt; PB</b>	0.035	0.053	0.655	<b>Not Supported</b>
<b>H11</b>	<b>PI-Gender-PB -&gt; PB</b>	-0.007	0.063	0.116	<b>Not Supported</b>
<b>H12</b>	<b>PI -&gt; PB</b>	0.345	0.06	5.763**	<b>Supported</b>

*\*\*p<0.01, Results are significant with 1 tail where:*

*T values >1.96 (p values < 0.01)*

So, from total indirect effects we realized that independent variables i.e. ENC, perceived value and willingness to pay has positive relationship with purchase behavior and their hypothesis are supported. While personal norms have no positive relationship with purchase behavior, thus this hypothesis is rejected.

On the other hand, from path coefficient results, it is evaluated that independent variables i.e. ENC, perceived value and willingness to pay have a positive relationship with PI because T value is greater than 1.96. So H5, H7 and H8 are supported. While personal norms do not have positive relationship with PI because its T value is less than required criteria. So, H6 is not supported. Next, all moderators such as age, gender and education do not have moderating effects between PI and purchase behavior because their T values are less than 1.96. So, H9, H10 & H11 are not supported and considered rejected. Lastly H12 results shows that PI has positive relationship with purchase behavior, so this hypothesis is accepted and evident from T value. Thus, we conclude that personal norms, age, gender and education are failed to explain the green buying behavior of Pakistani people. While ENC, perceived value willingness to pay and PI was found supported to determine the green buying behavior.

### **Discussion and Conclusion:**

So, the purpose of this research was to analyze that how independent, mediator and moderator variables are influencing people in Pakistan to purchase green product. The use of moderators such as age, gender and education were modification in framework (Al-Swidi & Saleh,2021). Results shows that ENC, perceived value and willingness to pay have significant positive impact on both PI and purchase behavior, which means that environmentally concerned people are attracted toward eco-friendly products and they are not reluctant to pay high prices. While if we look at personal norms, it does not have significant relationship with PI and purchase behavior. Next it is proved that PI has positive relation with purchase behavior (de Morais et al.,2021). After that, the results from our modification reveals that age, gender and education do not moderates the relationship between PI and purchase behavior. As a result, all hypothesis related to moderators are rejected.

### **Limitations and Directions for future research:**

The first limitation of our research is cross sectional study, in future, research should be done on basis of longitudinal or experimental studies for better results. The other limitation is sample size which was 250 respondents, future researcher can increase sample size for better generalizability. In our results the respondents from age category (15-25 years) were the highest, future researcher can approach people with high variability of age to see variation in people perception. Next, future implications for researcher is that they can make further modification in research by including other determinant of demographics such income, marital status and occupation as moderators to see that either they moderate the relationship between PI and purchase behavior or not. Additionally, researcher can also make modification in independent variables such as add attitude as independent variable to see its impact on both PI and purchase behavior.



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