

# IMPACT OF SUSTAINABLE PACKAGING ON CONSUMER PURCHASE INTENTION

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## ABSTRACT

*Packaging is an essential part of the products we use every day; from the milk packets and toothpaste we use in the morning to the moisturizers and night creams we apply at night. Materials like polythene, glass, tin, polyvinyl, and fibre are commonly used for packaging. However, these materials contribute significantly to the waste generated, especially in a country like India, which produces 62 million tons of waste each year. This study examines the relationship between the desire to purchase sustainable packaging and characteristics such as attitude, personal norms, perceived behavioral control, and perceived environmental awareness. The theoretical underpinning was the Theory of Planned Behavior, which was expanded by adding perceived environmental knowledge and environmental concern as new components. Data were gathered from people of different ages, incomes, levels of education, and genders using a quantitative survey-based methodology. The preliminary factor analysis revealed that the intention to purchase sustainable packaging is not significantly influenced by gender or environmental concerns. The study used partial least squares-structural equation modeling (PLS-SEM) to test theories that were developed from a thorough literature review. The data analysis shows that the only factors that significantly influence consumers' inclinations to purchase sustainably packaged goods are attitudes toward sustainability, personal norms, and perceived environmental awareness. It was also found that education significantly impacts personal norms. As the world progresses towards sustainable living, it is crucial to educate others to guide their purchasing intentions towards sustainable packaging.*

**Keywords:** Sustainability, Consumer Behavior, Generation Z, Sustainable Packaging, Ecological Footprint, Theory of Planned Behavior.

## INTRODUCTION

In India, a staggering 62 million tons of waste is generated annually. From milk packets to night creams, packaging plays a vital role in preserving product quality, yet its environmental toll is undeniable. In the age of climate change and growing ecological concerns, sustainable packaging has emerged as a critical solution to mitigate waste and promote responsible consumption. But what motivates consumers to choose sustainability over convenience?

Such significant packaging can decrease environmental damage or change the direction

of consumers as it can play a major role in sustainability while materials such as polythene dominate the traditionally used packaging forms. Such is unsustainable, raising great challenges when it comes to waste management as well as resources conservation. However, for sustainability, more people are being motivated towards eco-friendly alternatives in form of packaging. These efforts notwithstanding, sustainable packaging relies on the readiness of consumers to change to embrace such alterations that depend on attitude, personal norm, and actual knowledge about environmental conditions.

This study examines drivers of consumer purchase intentions for sustainable packaging, making use of the Theory of Planned Behaviour as the theoretical framework. Extending the TPB through constructs such as environmental concern and perceived environmental knowledge, this study seeks to expose the psychological and behavioral factors involved in sustainable decision-making. Its findings will serve to bridge consumer attitudes with the action of change, offering important insights for marketers, policymakers, and environmental advocates.

As the world gears up for sustainable living, understanding the drivers of purchasing intention toward sustainable and eco-friendly products presents a niche. This paper contributes to the existing body of literature by studying various demographic variables and analyzing the behavioral pattern, and actionable recommendations have been provided for fostering a culture of sustainability in packaging.

## LITERATURE REVIEW

In the 21st century, sustainable packaging has turned out to be one of the key issues that have gained significance both in academic and industrial discussions, with increasing concern about environmental sustainability and consumer behavior. Guided by Ajzen's Theory of Planned Behaviour (1991), this literature review combines insights from prior research on how attitudes, personal norms, perceived behavioral control, environmental knowledge, and purchase intentions for sustainable packaging are related.

### Theoretical Framework: The Theory of Planned Behaviour

The Theory of Planned Behaviour can explain how attitude, subjective norms, and perceived control over the behavior vary with regard to intentions and actions. Research such as Armitage and Conner (2001) proves that TPB is applicative in determining environmentally conscious behavior with sustainable purchasing included. Adding the elements of, for instance, environmental concern and perceived environmental knowledge, offers a much more detailed understanding of the decision-making process in sustainable packaging (Nguyen et al., 2022; Popovic et al., 2019).

### Attitudes towards Sustainability

Attitudes have been consistently identified to play an important role in sustainable purchasing. According to Otto et al. (2021), positive attitudes toward eco-friendly packaging significantly improve purchase intentions. Additionally, Ketelsen, Janssen, and Hamm (2020) point out that positive perceptions by consumers of environment-friendly packaging materials often result in higher product evaluation. Studies in the Indian context by Kapoor and Kumar (2019) further emphasize that attitudes are shaped by cultural and contextual factors, such as societal emphasis on environmental sustainability. From Ketelsen et al.: "consumers lack

knowledge, in particular about new packaging materials like bio-based packaging" and "many of the studies reviewed provide evidence that other product attributes such as price and product quality are more important to consumers than environmentally-friendly packaging"

*H<sub>1</sub>: Attitude towards sustainable packaging has a positive and significant impact on purchase intention*

## **Personal Norms**

Personal norms, or individuals' intrinsic motivations to act sustainably, emerge as a critical factor influencing purchase intentions. Research by Steg and Vlek (2009) indicates that individuals with strong personal norms regarding environmental protection are more likely to prioritize sustainable packaging. Similarly, Lavuri (2022) demonstrates that millennials' personal norms strongly correlate with their inclination to purchase eco-friendly products. From Prakash & Pathak: "purchase intention towards ecofriendly packaging is significantly influenced by personal norms, attitude, environmental concern and willingness to pay" From Panda et al.: "sustainability awareness positively influence the consumer altruism which in turn enhances the consumer purchase intention"

*H<sub>2</sub>: Personal norms have a positive and significant impact on purchase intention.*

## **Perceived Behavioural Control**

Perceived behavioural control, reflecting individuals' confidence in their ability to act sustainably, is another pivotal determinant. Nguyen et al. (2022) found that ease of access to sustainable options and affordability significantly enhance perceived behavioural control. Gutiérrez Taño, Hernández Méndez, and Díaz-Armas (2021) assert that businesses can foster this control by ensuring transparent labeling and clear eco- certifications on packaging.

*H<sub>3</sub>: Perceived behavioural control has a positive and significant impact on purchase intention*

## **Environmental Concern and Perceived Environmental Knowledge**

Environmental concern is widely acknowledged as a predictor of sustainable behaviours. Chan and Lau (2001) identify environmental concern as a cross-cultural determinant, even though its impact may vary between developed and developing markets or societies. However, Bedard and Tolmie (2018) argue that environmental concern must be complemented by relevant practical knowledge to influence behaviour effectively. Prakash et al. (2019) emphasizes the role of perceived environmental knowledge, stating that informed consumers are more likely to adopt sustainable practices, including choosing eco-friendly packaging. From Lavuri: "environment knowledge, environmental concern, subjective norms, and perceived behaviour factors significantly fostered green attitude"

*H<sub>4</sub>: Environmental concern has a positive and significant impact on purchase intention*

*H<sub>5</sub>: Perceived Environmental Knowledge has a positive and significant impact on purchase intention*

## **Demographic Influences on Sustainable Packaging Choices**

While demographic variables like age, education, and income often intersect with sustainable behaviours, their influence on purchase intentions varies. Hume (2010) and Koch et al. (2022) highlight that younger, educated consumers exhibit higher environmental awareness, which translates into stronger purchase intentions for sustainable packaging. However, the present study's findings challenge the significance of gender and environmental concern, aligning with Gyan Prakash and Pathak's (2017) assertion that socio-economic and cultural contexts mediate such relationships.

### Educational Interventions and Sustainability

Education has emerged as a transformative factor in fostering personal norms and environmental knowledge. Studies by Herbes et al. (2018) and Jerzyk (2016) indicate that well-structured educational campaigns can effectively shift consumer preferences toward sustainability. These findings are corroborated by Steenis et al. (2017), who stress the role of visual and textual communication in promoting eco-friendly packaging.

### Barriers to Adoption

Despite the shift in preference for sustainable packaging, cost, availability, and a lack of awareness remain significant barriers. According to Otto et al. (2021) and Santos et al. (2021), emerging markets are mostly deterred by economic constraints. Lavuri (2022) highlights the significance of targeted interventions to overcome such barriers and bring about a closer alignment between intention and behavior.

In conclusion, the literature review underscores the multifaceted nature of sustainable packaging adoption, which is shaped by attitudes, personal norms, perceived behavioural control, and environmental knowledge. Extending the TPB framework with constructs like environmental concern provides a comprehensive understanding of consumer intentions. However, bridging the gap between intention and action requires targeted educational and economic interventions, tailored to specific demographic and cultural contexts. By synthesizing these insights, this study contributes to both academic discourse and practical strategies for promoting sustainable packaging.

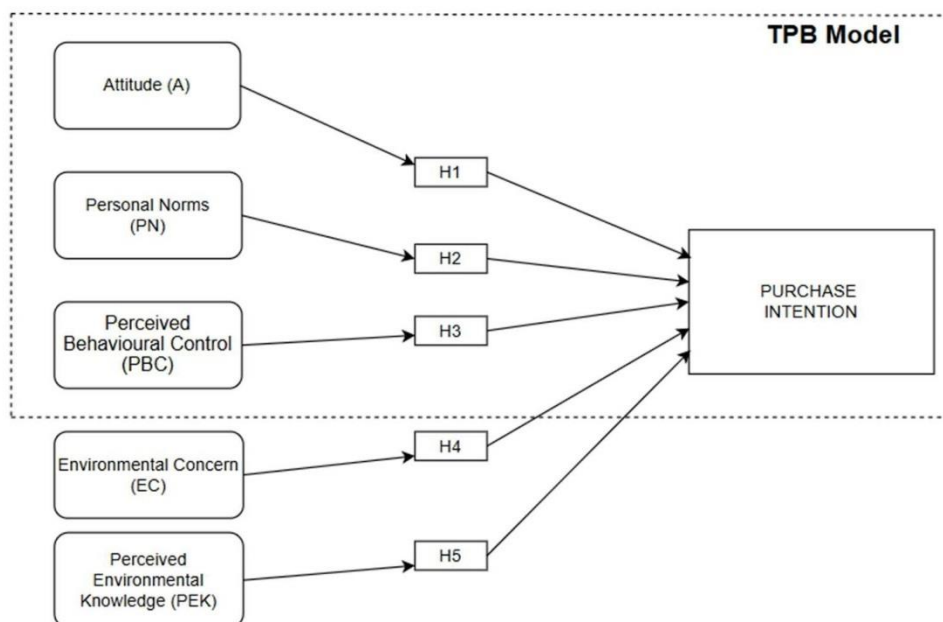
## THEORETICAL FRAMEWORK

The theoretical framework developed in this study stems from an extensive literature review, synthesizing an examination of how attributes like attitude, personal norms, perceived behavioural control, perceived environmental knowledge affect the purchase intention of sustainable packaging. The framework is an extended model of the original Theory of Planned behaviour Ajzen (1991) based on the quantitative data collected Tables 1-5.

<b>Table 1</b>	
<b>RESPONDENT DEMOGRAPHICS</b>	
<b>Demographics</b>	<b>Number (%)</b>
<b>Gender</b>	
Female	131 (45%)
Male	162 (55%)
<b>Age</b>	
5-25	147 (50%)
	56 (19%)

26-35	44 (15%)
36-45	45 (15%)
>45	
<b>Education</b>	
10 <sup>th</sup> Pass	8 (3%)
12 <sup>th</sup> Pass	18 (6%)
Under graduation	144 (49%)
Post graduation	123 (42%)
& above	
<b>Income</b>	
Less than 2,50,000	65 (22%)
2,50,000-5,00,000	49 (17%)
5,00,000-8,00,000	75 (26%)
8,00,000-12,00,000	43 (15%)
12,00,000 and more	61 (21%)

we can observe that among the 293 responses collected the many of the respondents belonged to ages between 16years and 25 years. The data collected from the respondents consists 55.3% of Male and 44.7% of Female. Upon further analysis using factor analysis, it was determined that gender does not have a significant impact on the purchase intention of sustainable packaging among the respondents. Other demographic information collected along with age, gender were education level and annual household income. Factor analysis was done to find the impact of each of the individual demographic information on the independent variables like Attitude, Personal Norms, Perceived behavioural control and Perceived environmental knowledge. Initially survey consisted of questions regarding Environmental concern, After Factor analysis, it was found that environmental concern does not have significant impact on purchase intention of sustainable packaging. Hence, we have excluded it from the theoretical Framework.



**FIGURE 1**  
**MODEL OF THEORY OF PLANNED BEHAVIOUR**

## METHODOLOGY

The objective of this study is to explore and understand if people will be willing to purchase products with sustainable packaging and how their age, gender, income and education influence their attitude, personal norms perceived behavioural control, environmental concern and perceived environmental knowledge. To achieve the objective, hypotheses are generated and extended version of theory of planned behaviour model is used. It is also found that several times there are discrepancies in purchase intentions and purchase behaviour, this study will help explain which of these independent variables have a significant impact on the purchase intention of sustainable packaging. The selected independent variables account for 79.919% of the variance in purchase intention.

Based on the Cronbach's Alpha Test, the sample shows an alpha value of 0.914, the high value indicates the sample is excellent reliability and internal consistency, and is valid for further analysis.

The Kaiser-Meyer-Olkin value of 0.856 indicates that the variables in the sample are correlated and appropriately suitable for factor analysis. The Barlett's Test of Sphericity with significance of 0.000\*\*\* indicates that the correlations between the variables are sufficient for factor analysis.

Table 2 SOURCES OF ITEMS IN DIFFERENT CONSTRUCTS	
CONSTRUCT AND ITEMS	SOURCE
<b>Attitude towards Sustainable packaging (ASP)</b> A1 I like the idea of purchasing products in sustainable packaging A2 As a consumer, my attitude towards sustainable packaging is favourable A3 Purchasing products in sustainable packaging is a good idea A4 Purchasing products in sustainable packaging is beneficial A5 Purchasing products in sustainable packaging is positive	Paul et al. (2016)
<b>Personal Norms (PN)</b> PN1 I feel an obligation to save the environment whenever possible PN2 I should do what I can to conserve natural resources PN3 I feel I must do something to help future generations PN4 I feel a strong personal obligation to purchase products in sustainable packaging PN5 I see myself as capable of purchasing products with sustainable packaging in the future	Khare (2015)
<b>Perceived Behavioural Control (PBC)</b> PBC1 I believe I have the ability (money, knowledge and willingness) to purchase products in sustainable packaging PBC2 If it were entirely up to me, I am confident that I will purchase products in sustainable packaging PBC3 I have resources, time and willingness to purchase products in sustainable packaging PBC4 There are likely plenty of opportunities for me to purchase products in sustainable packaging PBC5 I feel that purchasing products with sustainable packaging in not totally within my control	Paul el at. (2016)
<b>Environmental Concern (EC)</b> EC1 Environment is my major concern EC2 I am worried about the worsening of the environment EC3 I am emotionally involved in environment protection issues EC4 I often think about how the environment quality can be improved EC5 I enjoy experiencing the environmental benefits that green packaging brings	Jaiswal & Singh (2018)

<b>Perceived Environmental Knowledge (PEK)</b> PEK1 I am very knowledgeable about environmental issues PEK2 I know more about recycling than the average person PEK3 I know how to select products and packages that reduce the amount of landfill waste PEK4 I know that I buy products and packages that are environmentally safe PEK5 I understand the environmental phrases and symbols on product package.	Jaiswal & Kant (2017)
<b>Purchase Intentions (PI)</b> PI1 I will consider switching to environmentally friendly brands for ecological reasons PI2 I expect to purchase products with sustainable packaging in the future because of its positive environmental contributions PI3 I will consider buying sustainably packaged products because they are less polluting in coming times PI4 I plan to spend more on products wrapped in sustainable packaging rather than conventional packaging PI5 I definitely want to purchased sustainably packaged products in near future	Paul et. al (2016)

Table 3 shows the constructs and items used for the sample collection and understanding the impact of the selected independent variables on purchase intention of sustainable packaging.

<b>Table 3</b> <b>FACTOR ANALYSIS OUTPUT</b>		
CONSTRUCTS	FACTOR LOADING	CUMULATIVE VARIANCE %
<b>Attitude (A)</b> A2 A3 A4 A5	0.809 0.876 0.811 0.869	40.910
<b>Personal Norms (PN)</b> PN1 PN2	0.774 0.845	54.434
<b>Perceived Behavioural Control (PBK)</b> PBK3 PBK4 PBK5	0.659 0.837 0.850	63.563
<b>Environmental Concern (EC)</b> EC2	0.818	70.482
<b>Perceived Environmental Knowledge (PEK)</b> PEK1 PEK2 PEK3 PEK5	0.770 0.842 0.818 0.722	76.483
<b>Purchase Intentions (PI)</b> PI3 PI4	0.870 0.803	79.719

Based on the values attained from KMO test and The Barlett's Test of Sphericity, The

sample collected is suitable for Factor analysis, the results of Factor loading indicates the correlation between the variable and factor. From the Table, we can see that A2, A3, A4, A5 factors explain purchase intention of sustainable packaging with a variance of 40.910%. Similarly, we can observe that Personal Norms also have a factor loading of 0.774 and 0.845. We can also analyse that there is only one factor for the variable – environmental concern (EC2). A total of 79.719% variance can be explained based on the chosen independent variables.

### Linear Regression Model

Linear regression is used to analyse the relationship between independent variables like attitude, personal norms, perceived behavioural control, perceived environmental knowledge and environmental concern and the dependent variable purchase intention. Based on the Model, the hypothesized paths H1, H2, H5 are significant and H3, H4 are found to be not significant. The t value indicates whether the variable is a good predictor of the dependent variable, if t -value > 1.5 then it is considered a good predictor. From the table, environmental concern is not a good predictor for understanding the purchase intention. The relationship between attitude towards sustainable packaging and purchase intention (H1) is significant at  $p = 0.032$  with  $p$ -value less than 0.05. The hypothesis path, personal norms impact towards purchase intentions (H2) is significant at  $p = 0.003$  i.e.,  $p$ -value less than 0.05 with  $\beta = 0.198$ . The relationship between Perceived Behavioural Control and purchase intention (H3) is not significant at  $p = 0.120$  with  $p$ -value more than 0.05 with  $\beta = 0.093$ . The relationship between Environmental Concern and purchase intention (H3) is not significant at  $p = 0.203$  with  $p$ -value more than 0.05 with  $\beta = 0.079$ . Perceived Environmental Knowledge and purchase intention are significant at  $p = 0.000^{**}$  with  $p$ -value less than 0.05 with  $\beta = 0.296$ . The t-values indicate that attitude, personal norms, perceived behavioural control, perceived environmental knowledge except environmental concern are predictors of purchase intention of sustainable packaging.

The R-squared value suggests that 54.434% variance in purchase intention can be attributed to the combined effects of Attitude towards sustainable packaging, Personal norms and Perceived behavioral Control. Similarly, 76.642% variance in purchase intention can be attribute to the combined effects of Age, Gender, Income and education level.

Table 4 LINEAR REGRESSION MODEL					
LR	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	1.087	0.257		4.233	0
Attitude	0.116	0.054	0.121	2.15	0.032
Personal Norms	0.189	0.063	0.198	2.995	0.003
Perceived Behavioural Control	0.08	0.051	0.093	1.559	0.12
Environmental Concern	0.07	0.055	0.079	1.276	0.203



Perceived Environmental Knowledge	0.285	0.057	0.296	5.014	0
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Table 5 TEST OF HYPOTHESES				
Hypotheses and Path	Beta	P value	P value	Supported/Not Supported
H1 – A à PI	0.121	0.032	<0.05	Supported
H2 – PN à PI	0.198	0.003	<0.05	Supported
H3 – PBC à PI	0.093	0.12	>0.05	Not Supported
H4 – EC à PI	0.079	0.203	>0.05	Not Supported
H5 – PEK à PI	0.296	0.000***	<0.05	Supported

The hypotheses testing revealed several significant relationships, as well as some unexpected findings.

**Hypothesis 1 (H<sub>1</sub>):** *Attitude towards sustainable packaging has a positive and significant impact on purchase intention.*

The analysis supported H1, indicating that attitude towards sustainable packaging positively influences purchase intention. The Beta coefficient of 0.121 and a P value of 0.032 ( $P < 0.05$ ) suggest that consumers with a favorable attitude towards sustainable packaging are more likely to intend to purchase sustainable packaging. This aligns with previous research, which has consistently shown that positive attitudes towards environmentally friendly products enhance purchase intentions.

**Hypothesis 2 (H<sub>2</sub>):** *Personal norms have a positive and significant impact on purchase intention.*

H2 was also supported, with a Beta coefficient of 0.198 and a P value of 0.003 ( $P < 0.05$ ) that means the analysis supports our hypothesis and with 97% confidence we can say that this conclusion was not derived at random. This finding indicates that personal norms significantly influence purchase intention. Consumers who feel a moral obligation to engage in sustainable behaviors are more likely to purchase sustainable packaging. This result is consistent with studies that highlight the role of personal norms in driving pro-environmental behaviors.

**Hypothesis 3 (H<sub>3</sub>):** *Perceived behavioural control has a positive and significant impact on purchase intention.*

Contrary to expectations, H3 was not supported. The Beta coefficient was 0.093, with a P

value of 0.120 ( $P > 0.05$ ), indicating that there is no significant relationship between perceived behavioural control and purchase intention. This suggests that consumers' perception of their ability to purchase sustainable packaging does not significantly impact their purchase intention. This result diverges from some previous studies that have identified perceived behavioral control as a significant predictor of green purchase intentions. This could be due to several demographic difference taken in the sample as well.

**Hypothesis 4 ( $H_4$ ):** *Environmental concern has a positive and significant impact on purchase intention.*

H4 was also not supported, with a Beta coefficient of 0.079 and a P value of 0.203 ( $P > 0.05$ ). This result indicates that environmental concern does not significantly impact the purchase intention. Despite consumers expressing concern for the environment, this concern does not translate into intention, this can be analysed further by taking into factor another variable – purchase behavior (PB). Several studies indicate the discrepancies between purchase intention and purchase behaviour (A. C. (1995).

**Hypothesis 5 ( $H_5$ ):** *Perceived Environmental Knowledge has a positive and significant impact on purchase intention.*

H5 was the most strongly supported variable amongst the five chosen independent variables, with a Beta coefficient of 0.296 and a P value of 0.000 ( $P < 0.05$ ). This indicates that perceived environmental knowledge significantly influences purchase intention. Consumers who believe they have a good understanding of environmental issues are more likely to intend to purchase sustainable packaging. This finding underscores the need for environmental education and awareness, we can say that this phenomenon does not occur at random with a confidence of 99.9%.

## Structural Equation Model

PLS-SEM was used to test the hypothesized relationships between the constructs and purchase intentions. The path coefficients, T-values, and p-values were analyzed to determine the significance of the hypotheses. The model explained 65.80% of the variance in purchase intention, indicating that the selected independent variables provide a strong explanation of the dependent variable.

Table 6 SEM MODEL				
	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Attitude towards sustainability (A)	0.870	0.873	0.912	0.721
Environmental Concern (EC)	0.846	0.849	0.890	0.619

<b>PURCHASE INTENTION (PI)</b>	0.865	0.872	0.902	0.650
<b>Perceived Behavioural Control (PBC)</b>	0.820	0.845	0.892	0.735
<b>Perceived Environmental Knowledge (PEK)</b>	0.849	0.867	0.893	0.629
<b>Personal Norms (PN)</b>	0.804	0.807	0.873	0.633

The overall model fit indices indicated acceptable levels, supporting the validity and reliability of the structural model. The significant predictors were Attitude, Environmental Concern, and Perceived Environmental Knowledge.

The results of Partial Least Squares – Structural equation model slightly differ from that of linear regression, Perceived Behavioural Control (PBC) is found to be insignificant in both the methods, it is only 90% significant whereas in Linear regression method it is found to be 88% significant. Personal norms have shown to have limited impact on Purchase Intentions, while linear regression has shown that personal norms, that is the moral obligation of the consumers is found to have 99.7% significance on purchase intentions.

Environmental Concern (EC) has a strong positive relationship with purchase intention ( $O = 0.432$ ), and it's highly statistically significant ( $p < 0.0001$ ). Perceived Environmental Knowledge (PEK) has a moderate positive relationship with purchase intention ( $O = 0.202$ ), and it's also highly statistically significant ( $p < 0.0001$ ). Attitude towards sustainability (A) has a small positive relationship with purchase intention ( $O = 0.191$ ), and it's statistically significant ( $p = 0.002$ ). Perceived Behavioural Control (PBC) has a weak positive relationship with purchase intention ( $O = 0.100$ ), but it's not statistically significant ( $p = 0.103$ ). Personal Norms (PN) has a very weak positive relationship with purchase intention ( $O = 0.077$ ), and it's not statistically significant ( $p = 0.280$ ).

<b>Table 7</b>					
<b>PATH COEFFICIENTS AND STATISTICAL OF FACTORS INFLUENCING PURCHASE INTENTION</b>					
	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P values
Attitude towards sustainability (A) -> PURCHASE INTENTION (PI)	0.191	0.190	0.061	3.134	0.002
Environmental Concern (EC) -> PURCHASE INTENTION (PI)	0.432	0.432	0.065	6.608	0.000
Perceived Behavioural Control (PBC) -> PURCHASE INTENTION (PI)	0.100	0.103	0.061	1.632	0.103
Perceived Environmental Knowledge (PEK) -> PURCHASE INTENTION (PI)	0.202	0.199	0.050	4.067	0.000
Personal Norms (PN) -> PURCHASE INTENTION (PI)	0.077	0.080	0.071	1.080	0.280

This analysis suggests that how much someone cares about the environment and how much they think they know about environmental issues are strong predictors of whether they intend to make sustainable purchases. A positive attitude towards sustainability also plays a role,

though a smaller one. Beliefs about control over purchasing and personal norms about sustainability don't appear to have a significant impact in this model. The factors – Personal norms (PN) and Perceived Behavioural Control (PBC) are considered as non-significant predictors for purchase intention.

The Structural Equation Modeling (SEM) analysis yielded insightful findings regarding the factors influencing purchase intentions. The results indicate that a positive attitude significantly impacts purchase intentions, supporting H1. However, H2 was not supported, as personal norms exhibited a limited effect on consumer intentions. Similarly, H3 was not supported, with perceived behavioral control showing no significant predictive power. In contrast, H4 was supported, demonstrating that environmental concern plays a strong role in shaping purchase intentions. Notably, H5 was also supported, revealing that perceived environmental knowledge emerged as the strongest predictor. These findings highlight the key psychological and environmental factors that drive consumer decision-making in sustainable product adoption.

## RESULTS AND DISCUSSION

This study explores how consumer attitudes, knowledge, and personal norms influence the decision to purchase sustainable packaging. By applying an extended Theory of Planned Behaviour (TPB) framework, we analysed data using Partial Least Squares Structural Equation Modelling (PLS-SEM) to assess the relationships between key psychological factors and purchase intention.

### Demographic Overview

The study surveyed 293 participants, with a gender split of 55.3% male and 44.7% female. The majority (50%) were between 16-25 years old, followed by 26-35 years (19%), 36-45 years (15%), and above 45 years (15%). Education levels ranged from undergraduate degrees (49%) to postgraduate qualifications (42%). A significant proportion of respondents (26%) reported an annual income between INR 5,00,000-8,00,000, indicating a diverse financial background.

### Key Findings from Hypothesis Testing

Table 7 summarizes the statistical results, with an R-squared value of 65.8%, showing a strong explanatory power of the independent variables in predicting purchase intention.

### Significant Factors Influencing Purchase Intention

- **Attitude towards sustainable packaging ( $\beta = 0.121$ ,  $p = 0.032$ ):** Consumers who perceive sustainability positively are more likely to make eco-friendly choices.
- **Personal norms ( $\beta = 0.198$ ,  $p = 0.003$ ):** A strong sense of moral obligation encourages responsible purchasing behaviour.
- **Perceived environmental knowledge ( $\beta = 0.296$ ,  $p = 0.000$ ):** Higher awareness of sustainability benefits strengthens consumer willingness to opt for green packaging.

**Factors with No Significant Impact:**

- **Perceived behavioural control** ( $\beta = 0.093$ ,  $p = 0.120$ ): The ease of accessing sustainable packaging did not translate into higher purchase intention.
- **Environmental concern** ( $\beta = 0.079$ ,  $p = 0.203$ ): Although participants expressed concern for environmental issues, this did not directly influence their purchasing choices.

**DISCUSSION****Interpreting the Results**

These findings suggest that while many consumers are aware of sustainability, their actual purchasing decisions are primarily driven by personal attitudes and moral responsibility rather than just concern for the environment. This highlights an important intention-behaviour gap, consumers may care about environmental issues, but without strong personal motivation or awareness, they may not translate that concern into action.

Interestingly, perceived behavioural control was not a significant factor, suggesting that even if sustainable packaging is accessible, consumers may not feel compelled to buy it. This contradicts conventional TPB models, emphasizing that shaping consumer mindsets through education and targeted marketing is more effective than just increasing product availability.

**Implications for Businesses and Policymakers**

1. **Education and Awareness Initiatives:** Companies should invest in sustainability education to enhance consumer knowledge and positively shape attitudes.
2. **Marketing Strategies:** Brands should highlight personal responsibility and eco-conscious benefits in their messaging to make sustainability a desirable choice.
3. **Addressing the Intention-Behaviour Gap:** Businesses can use behavioural nudges, incentives, and transparent labelling to encourage consumers to act on their sustainability values.

**Theoretical Contributions**

This research builds on the TPB framework by showing that perceived environmental knowledge plays a stronger role in influencing purchase intention than perceived behavioural control or general environmental concern. This suggests that simply making sustainable packaging available is not enough, education and moral engagement are also needed and these are the key drivers of behaviour.

**CONCLUSION**

This study finds that attitude, personal norms, and knowledge significantly influence consumer willingness to adopt sustainable packaging, whereas perceived behavioural control and environmental concern do not. These insights suggest that businesses and policymakers should focus on shaping perceptions and increasing sustainability awareness rather than just improving access to eco-friendly products.

Future research can explore how incentives, social influence, and economic factors impact

actual consumer behaviour, helping bridge the gap between sustainability awareness and real-world purchasing decisions.

## LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

While this study provides valuable insights into the impact of sustainable packaging on consumer intentions, there are some limitations that should be noted, which may affect the generalizability and robustness of the findings. Identifying these limitations not only identifies areas that need further exploration but also provides a foundation for future research to build upon.

First, this study had a limited sample size of 293 and a lack of diversity among the participants, which may limit the generalizability of the findings to the larger population specially in terms of variance in age groups, as most of the respondents for this survey belong to the category of under 25 years. In future research, larger samples and a more diverse pool should be used in order to make the studies more reliable. Additionally, research can be done to understand the difference between consumer intention and consumer behaviour as several factors such as affordability and availability must be considered for a consumer's intent to convert into action.

Also, the companies selling sustainably packaged products should start portraying a better story, a more clearer initiative, as per this study it shows how important environmental knowledge is in order to boost the adoption of sustainable packaging. Consumers must be educated through digital platforms and product descriptions regarding the sustainable packaging.

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