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Special

Green Purchase Intention: Understanding the Role of Environmental Beliefs, Health Consciousness and Perceived Behavioural Control

Intención de compra ecolóxica: comprensión do papel das crenzas medioambientais, a conciencia sanitaria e o control conductual percibido

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Abstract

Consumer awareness of environmental issues has steadily increased, with environmental values significantly shaping purchase intentions. Essential to environmental sustainability are ecological packaging and ecological products. This study examines the impact of green product knowledge and green packaging on environmental beliefs, health consciousness, perceived behavioural control and consumer purchase intention, focusing on Visakhapatnam (India). A quantitative survey was conducted using purposive sampling, targeting individuals who are familiar with green products. Data from 306 respondents were analysed using the Statistical Package for the Social Sciences (SPSS) and AMOS. Structural equation modelling (SEM) was used to validate the conceptual framework. The results indicate that green product knowledge, environmental beliefs, health consciousness, and perceived behavioural control have an impact on green purchase intention, whereas green packaging does not. These findings emphasise the importance of psychological and informative factors for shaping environmentally friendly consumer behaviour. This study contributes to the existing literature on sustainable consumer behaviour, especially related to green fast-moving consumer goods (FMCG). It provides practical insight to marketers, decision-makers, and environmentalists who aim to promote environmentally friendly FMCG products. Additionally, focusing on significant psychological and behavioural factors allows for designing strategies that help the environment and improve public health.

Keywords: Green product knowledge; Green packaging; Sustainability; Environment; Green marketing; Green purchase intention.

Resumo

A concienciación dos consumidores sobre as cuestións medioambientais non deixou de aumentar, ata o punto en que os valores medioambientais determinan de forma significativa as intencións de compra. Os envases e os produtos ecolóxicos son esenciais para a sustentabilidade medioambiental. Este estudo examina o impacto do coñecemento dos produtos ecolóxicos e os envases ecolóxicos nas crenzas medioambientais, a conciencia sanitaria, o control sobre a conducta percibido e a intención de compra dos consumidores, centrándose en Visakhapatnam (India). Realizouse unha enquisa cuantitativa mediante mostraxe intencionada, dirixida a persoas familiarizadas cos produtos ecolóxicos. Os datos de 306 enquisados analizáronse co Paquete Estatístico para as Ciencias Sociais (SPSS) e AMOS. Utilizouse un modelo de ecuacións estruturais (SEM) para validar o marco conceptual. Os resultados indican que o coñecemento dos produtos ecolóxicos, as crenzas medioambientais, a conciencia sanitaria e o control da conducta percibido inflúen na intención de compra ecolóxica, mentres que o envasado ecolóxico non o fai. Estes resultados subliñan a importancia dos factores psicolóxicos e informativos na formación do comportamento ecolóxico dos consumidores. Este estudo contribúe á literatura existente sobre o comportamento sostible dos consumidores, especialmente en relación cos bens de consumo verde de rápida rotación (FMCG). Proporciona unha visión práctica aos profesionais do márketing, os responsables da toma de decisións e os ecoloxistas que pretenden promover produtos de gran consumo respectuosos co medio ambiente. Ademais, ao centrarse en importantes factores psicolóxicos e de comportamento significativos, permite.

Palabras chave: Coñecemento de produtos verdes; Embalaxe verde; Sustentabilidade; Medioambiente; Mercadotecnia verde; Intención de compra verde.

JEL classification: M10; M31; O13; O44.

1. INTRODUCTION

Environmental problems including pollution, climate change, and global warming are unavoidable effects of human activity (Ecevit, 2023). Individuals are becoming more aware of the environment and are being forced to adopt environmentally friendly practices due to these growing concerns (Zhuang & Riaz, 2021). Businesses from all sectors incorporate environmental considerations into their company plans and operations as sustainability becomes a crucial problem (Dangelico & Vocalelli, 2017; Jamal et al., 2021). Among these sectors, the "Fast-Moving Consumer Goods" (FMCG) sector is vital to the economy and permeates every aspect of consumers' everyday lives (Wanninayake & Randiwela, 2008; Munasinghe & Shantha, 2021). Because of the industry's high consumption rate and the short product lifecycle, packaging waste has emerged as a significant environmental issue (Kong et al., 2014).

Companies are investigated by suitable solutions, especially in packaging, due to increasing desire for consumers for environmentally friendly products (Nguyen et al., 2020a). Although companies are eager to create a green market, growth in these industries depends mainly on the change in consumer purchase patterns. However, since different factors affect purchase decisions, understanding consumer behaviour is a challenging process (Jamal et al., 2021). In order to create successful marketing strategies, companies must check the elements that affect consumers' intentions of doing green shopping, as this is an essential sign of their environmentally conscious behaviour.

An essential factor that affects how consumers assess the quality of a product is through sustainable packaging. In this study, it is vital to examine the effect of green packaging on the perceptions of belief in the environment and the purchase intentions. According to previous research, consumer trends for green products are strongly affected by environmental issues, abnormal climate change, health awareness, and sustainable development knowledge (Barber, 2010; Okada & Mais, 2010; Kong et al., 2014). FMCG companies have invested in sustainability initiatives and green marketing strategies as a result of the growing demand for green products (Dangelico & Pontrandolfo, 2010); in addition to getting competitive management, such companies that succeed in implementing this strategy, such as FMCG (Autere & Sandnes, 2023; Munasinghe & Shantha, 2021).

Given the current status of the environment and the increasing importance of health problems, this research is highly relevant. Consumers are quickly aware of the harmful effects of packaging waste on the environment and are actively looking for products that match their values and personal health benefits (Mishra et al., 2017). The "Green Revolution" movement is accelerating, eager to change the current path of environmental decline with consumers (Nguyen et al., 2020b). Many are ready to support their procurement and consumption habits for ecological improvement (Ramakrishnan, 2024; MITSDE, 2023). This change shows how environmental issues are integrated into consumer lifestyle options. When the authorities tighten environmental rules and take the centre in stability in business strategies, this research provides valuable insight into green shopping factors (Prakash & Pathak, 2017; Dilkes-Hoffman et al., 2018; Mahmoud et al., 2022). Understanding these drivers helps companies remain competitive in a market that requires more sustainable practices.

Despite the relevance of the intention to purchase for competitive advantage, there is a lack of studies that examine the common effects of green packaging, environmental awareness and other factors. The purpose of this study is to examine the factors influencing customers' intention to buy green products within the FMCG sector. By understanding consumer behaviour in this environment, FMCG companies can improve their stability efforts, meet customer

demand and support the green revolution in general. As stability increases in significance, understanding these factors helps companies meet environmentally conscious consumer requirements and adapt their strategies to coordinate their products with consumer values (Chen, 2024). Moreover, green marketing adds value to businesses by differentiating their products, forming loyalty, and entering new markets by adjusting the stability values. It attracts environmentally conscious consumers and fosters confidence, allowing companies to flourish in a stable market (Hussain, 2024; Dorasamy, 2023).

2. LITERATURE REVIEW

One of the basic principles of marketing is the theory of consumer behaviour. Consumer behaviour theory (Engel et al., 1995) provides an overview of the elements affecting customer decisions (Zhuang et al., 2021). In order to investigate the aspects that affect customer intentions for green shopping, this study creates a model on this basis.

The Stimulus-Organism-Response (S-O-R) model, first proposed by Mehrabian and Russell (1974) in the context of environmental psychology, which suggests that external environmental factor (stimuli) affects a person's internal psychological state (organisms), resulting in the particular behavioural outcomes (reactions). This model has been widely used in consumer behavior research, especially to understand how the marketing factor affects consumers' decision-making processes (Gatautis et al., 2016).

As stated in the literature, marketing stimuli can be broadly classified into product, price, promotion or packaging elements (Kıymalıoğlu et al., 2024; Rehman & Elahi, 2024; Quoc et al., 2025), which contribute to the development of consumer perceptions and actions. Moreover, the organism is the consumer's internal process including perception, learning, motivation, attitude and beliefs, as expressed by Kotler et al. (2023). The way these stimuli are interpreted and the internal state mediates behavioural outcomes. In consumer contexts, these processes determine reactions that influence the product acceptance or rejection, and the response stage captures purchase intention or actual purchase behaviour.

In this study context, green product knowledge and green packaging act as stimuli. Whereas environmental beliefs, health consciousness, and perceived behavioural control are considered as organisms and green purchase intention as response. The S-O-R model helps us to understand factors influencing green purchase intention.

This study primarily employs the Stimulus-Organism-Response (SOR) framework to understand green purchase intention. Additionally, it incorporates important variable i.e., perceived behavioural control from the Theory of Planned Behaviour (Ajzen, 1991), which is also treated as part of the 'organism' component within the SOR framework. Perceived behavioural control significantly influences consumers' purchase intentions and behaviour (Achchuthan & Thirunavukkarasu, 2016).

This study, which builds on earlier studies, identifies important antecedents of perceived behaviour control (PBC), health consciousness (HC), and green purchase intention (GPI) (Pickett-Baker & Ozaki, 2008; Chen & Deng, 2016; Iqbal et al., 2021; Su et al., 2022; Ruangkanjanases et al., 2020). SOR is considered one of the most practical and well-established structures for analyzing and prognosis consumer behaviour. In relation to prior research, this study uses SOR frameworks to analyse important aspects that affect consumers' intentions to buy green FMCG products, such as product knowledge, packaging, health consciousness and environmental beliefs. In addition, it checks how environmental beliefs affect the relationship between approach and intentions, which improves our understanding of green purchasing practices.

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Green product knowledge (GPK):

"Green product knowledge" is defined as the understanding of consumers regarding the specific features and advantages of green products to the environment (Wang et al., 2019). This type of knowledge is not objective but subjective and has a direct impact on the consumer's behaviour and attitude (Wang et al., 2019). Consumers are often presented with specific information that, when stored in their memory, influences how they analyse, comprehend, and form positive biases toward eco-friendly products. As customers become more knowledgeable, their ability to understand the features and benefits of green products increases. Based on previous studies, knowledge of green products is, arguably, one of the most critical factors that influence the intention or the actual behaviour of buying green (Bang et al., 2000; Kanchanapibul et al., 2014; Newton et al., 2015; Wang et al., 2019). The lack of information on green products might cause a division in customers' perceptions and purchasing behaviour.

Green products reduce unnecessary waste, do not harm the environment or humans, do not include expensive cruelty, and conserve resources (Abdul-Muhmin, 2007). To effectively achieve these goals, environmental factors should be considered at all points during the development and use of green products (Nia et al., 2018). Raising awareness and promoting the use of green products is important to promote an environmentally friendly lifestyle, as it can give rise to replacement of traditional objects with green people (Baker & Hart, 2016; Amegbe et al.,2017; Awuni & Yiranbon, 2016; Ansu-Mensah, 2021). The need for more consumer knowledge and understanding in this field is supported by more research, shown that green products have significant effects on the green purchase intention.

H1(a) Green product knowledge has an impact on environmental beliefs

H1(b) Green product knowledge has an impact on Health consciousness

H1(c) Green product knowledge has an impact on perceived behaviour control

H1(d) Green product knowledge has an impact on green purchase intention

Green packaging (GP):

The term "green packaging" describes packaging that may be recycled, broken down, or used again without endangering the environment or people while a product is being utilised (Zhang & Zhao, 2012). The green packaging sector is steadily growing internationally, giving companies chances to launch creative and affordable sustainable packaging solutions (Draskovic et al., 2009). Eco-friendly packaging is a rapidly expanding trend that is essential to a nation's sustainability efforts (Fadhilla & Astuti, 2022).

Companies use tactics like adding ecologically friendly or "green packaging" to their products to pique consumers' interest in green products (Draskovic et al., 2009). The growing customer demand for eco-friendly items can be better met by businesses that switch to sustainable packaging or green materials (Munasinghe & Shantha, 2021). Even though packaging is a social and political issue, little is known about how consumers see environmentally friendly packaging (Ketelsen et al., 2020; Duarte et al., 2024). Thus, expanding our understanding of the elements influencing consumers' intents to buy items with sustainable packaging is crucial.

H2(a) Green packaging has an impact on environmental beliefs

H2(b) Green packaging has an impact on green purchase intention

Environmental beliefs (EB):

It is known that environmental ideas about the interrelationship between nature and humans are important indicators of ecological preservation behaviour (Scott & Willits, 1994; Naalchi Kashi, 2020). People's actions toward the environment are shaped by the underlying system of attitudes that these beliefs produce (Gray, 1985). Consumers with strong environmental beliefs are more likely to care about the environment and take more initiative when implementing green consumption habits (Inkpen & Baily, 2020). According to Groening et al. (2018), individual information derived from personal observations and feelings intimately relates to environmental perspectives. They serve as catalysts for people to embrace ecologically friendly behaviours by cultivating an awareness of the ecosystem (Liobikienė & Poškus, 2019; Marwat et al., 2022). Therefore, determining target markets and promoting green buying behaviour depends heavily on consumer environmental beliefs.

Environmental beliefs are defined by Stern (2000) as a person's attribution to responsibility for taking preventive measures and their awareness of the environmental impacts of particular behaviours. These ideas contribute to the creation of environmentally friendly norms, which have a powerful ability to affect real conduct (Samarasinghe & Samarasinghe, 2013). In addition, people with strong environmental decorations are more likely to take preventive measures and actively seek selfless and responsible solutions for environmental issues (Webster et al., 2021).

H3(a) Environmental beliefs has an impact on green purchase intention

H3(b) Environmental beliefs plays a mediation role between green product knowledge and green purchase intention

H3(c) Environmental beliefs plays a mediation role between green packaging and green purchase intention

Health consciousness (HC):

The level of involvement in management and connection in health-related activities is referred to as health consciousness (Iqbal et al., 2021). Customers who care about their health are more aware of the good and motivated to use healthy habits to preserve and improve their health (Schifferstein & Oude Ophuis, 1998; Nguyen et al., 2023). This consciousness often affects procurement decisions, as they choose elements that increase their well-being and promote health (Nguyen et al., 2023). Consumers who are concerned about their health are more likely to work environmentally responsible (Zanoli & Naspetti, 2002; Prakash et al., 2019). This is due to their tendency to see green products as healthier than traditional ones, often believing that they contain higher nutritional value (Lea & Worsley, 2005). Customers see green products as an alternative to healthy foods because they are safe, contain more nutrients, and do not contain any dangerous chemicals or additives (Padel & Foster, 2005).

Recently conducted studies have shown a positive correlation between green purchasing practices and health consciousness (Iqbal et al., 2021; Su et al., 2022). Consequently, people are increasingly interested in buying organic foods, as they are usually considered healthy compared to traditional food (Raza et al., 2019). The idea that health-conscious consumers often choose organic products goes beyond the notion that these foods are chemical-free, adorable, and environmentally affected (Iqbal et al., 2021; Hill & Lynchehaun, 2002). Health aspects play an important role in influencing customers' procurement decisions, especially

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regarding organic and green products, because health-conscious consumers are more likely to participate in green purchasing behaviour (Xu et al., 2020; Yadav & Pathak, 2017).

H4(a) Health consciousness has an impact on perceived behaviour control

H4(b) Health consciousness has an impact on green purchase intention

H4(c) Health consciousness plays a mediation role between green product knowledge and green purchase intention

Perceived behaviour control (PBC):

The term "perceived behavioural control" (PBC) explains how a person feels about a specific action or ability to complete the activity. This view is influenced by their ideas about resources available and can help or prevent the necessary tasks (Ajzen, 1991). Perceived behavioural control suggests that customers feel their actions can influence their ability to purchase green products, thereby shaping their intention to purchase (Karatu & Nik Mat, 2015). Additionally, perceived behavioural control has proven to be an important prophet of behavioural intentions (Chen & Deng, 2016; Ruangkanjanases et al., 2020). The extent to which people believe they have the means and opportunity to participate in an activity influences the strength of their contribution. When consumers feel powerless or lack sufficient resources, their willingness to purchase environmentally friendly products can slow down (Karatu & Nik Mat, 2015; Abeysekera et al., 2022).

Consumers consider involvement and knowledge as characteristics they can control, related to green products. These aspects affect the customer's ultimate decision (Abeysekera et al., 2022). One study discovered that consumers of green products place a high value on healthiness (Abeysekera et al., 2022). Control beliefs, which are an individual's assessment of the presence or accessibility of the behaviour's facilitators and inhibitors (e.g., time, money, and skills), further create perceived behavioural control (Ajzen, 1991; Wijayaningtyas et al., 2019). Furthermore, perceived power is the individual's evaluation of how much these elements simplify or impede the behaviour.

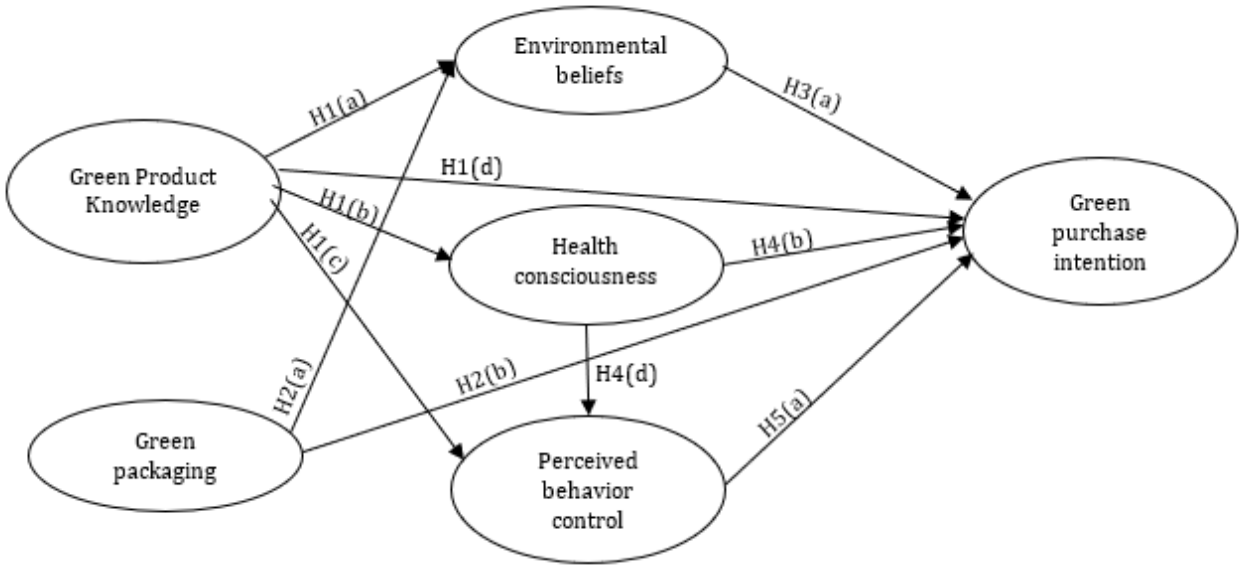
H5(a) Perceived behaviour control has an impact on green purchase intention

H5(b) Perceived behaviour control plays a mediation role between green product knowledge and green purchase intention

Green purchase intention (GPI):

Prior to developing green purchase behaviour, there must be a green purchase intention, often known as the desire to acquire green products. Rashid (2009) defines green buying intention as a person's propensity and inclination to choose environmentally friendly products over conventional ones when making judgments about what to buy. Since a stronger intention increases the possibility of making a purchase and seeing it through to completion, understanding intention is one of the most reliable methods to forecast client decisions (Karatu & Nik Mat, 2015; Jamal et al., 2021; Nguyen et al., 2020b).

Fig. 1 Framework of the study



3. METHODOLOGY

This study uses a cross-sectional research design, an explanatory study conducted at a single point in time to address the research objectives (Sekaran & Bougie, 2016). Data were collected through a well-structured, self-administered questionnaire distributed offline. The target population is comprised of consumers in Visakhapatnam, India, who are aware of green FMCG products (Reddy et al., 2023). Additionally, the city has been actively promoting environmental sustainability (Rao, 2024), further reinforcing its suitability for this study. Potential respondents were approached to gather relevant data while shopping in supermarkets and organic stores across various parts of the city. The sampling technique that was utilised was purposeful sampling. Purposive sampling involves selecting participants who meet specific criteria, such as individuals aged 18 and above and respondents who are familiar with green FMCG products. To ensure eligibility, a screening question was included: Are you familiar with what green or eco-friendly FMCG products are?" and only those who answered "Yes" proceeded with the survey.

All questionnaires were examined by experienced researchers to guarantee that this study was clear and relevant to addressing the goals. The questionnaire consisted of two sections: the first gathered sociodemographic data, while the second 22 items and 6 constructs, measured using five items on a 5-point Likert scale, with 1 denoting "strongly disagree" and 5 denoting "strongly agree." This section was designed to assess the research model based on the body of existing literature.

The following were the items used to measure the constructs: "green product knowledge" was modified from Nekmahmud et al. (2022); Ojiaku et al. (2018) "green packaging" items were adapted from Shabbir et al. (2020); Majeed et al. (2022) "environmental beliefs" items were taken from Lee & Lee (2024); Majeed et al., (2022), and three items from Wang et al., (2018), Nekmahmud et al. (2022) were used to measure "perceived behaviour control.". Items related to "health consciousness" were adapted from Xu et al., (2020), Shah et al. (2021) and Nicolae (2024) while items from Chen and Deng (2016); Nekmahmud et al. (2022) were modified to measure "purchase intention." Additional details about the questionnaires are provided in Appendix A.

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It was suggested that a minimum sample size of 200 be used for SEM analysis (Bentler & Chou, 1987; Kline, 2023). According to Hair et al. (2019), the minimum sample size was 150 for models with seven or fewer variables. Moreover, According to Hair et al. (2010), the number of respondents should be at least five times the number of variables to be analysed, and a more acceptable sample size would be a 10:1 ratio. Based on this, the sample size for this study can be calculated as follows: Number of variables × 10 = minimum sample size i.e., 22 × 10 = 220 respondents. Since the actual sample size of this study is 306, which exceeds the minimum sample size criterion, it is considered adequate for analysis. Furthermore, the study uses SPSS (Statistical Package for the Social Sciences) and AMOS to analysed the data.

4. RESULTS

The study sample (Table 1) shows the demographic details. In terms of gender, the survey shows a higher representation of men, with 182 (59.48%) male respondents and 124 (40.52%) female respondents. In terms of age, 36.60% of the sample is in the 26–35 age range, followed by the 36–45 age range (31.70%), 23.86% are in the 46 and above age range, and just 7.84% are in the 18–25 age range. Regarding education, most respondents (49.67%) have a graduate degree, followed by Post graduates (31.37%), 10.46 in the others group, and 8.50% in the up to the secondary group. In terms of income, 41.83% of the sample is in the 25000-49999 range, followed by the 50000-99999 income range (23.53%), 17.65% are in the 10000 and above income range, and 17.65% are in the below 25000 income range.

Table 1. Demographic profile

Variable		Frequency	%
Gender	Male	182	59.48
	Female	124	40.52
Age	18-25	24	7.84
	26-35	112	36.60
	36-45	97	31.70
	46 and above	73	23.86
Education	Up to secondary	26	8.50
	graduate	152	49.67
	Post graduate	96	31.37
	other	32	10.46
Income	Below 25000	52	16.99
	25000-49999	128	41.83
	50000-99999	72	23.53
	100000 and above	54	17.65

A confirmatory factor analysis (CFA) is carried out to assess the total measurement model. Convergent and discriminant validity were assessed in order to assess the measurement model's validity. The study Factor loading should be greater than 0.70, as shown in table 2.

Table 2. Standardised loadings, CA, CR and AVE

Items	Loadings	CA	CR	AVE
GPK1	0.775	0.834	0.835	0.558
GPK2	0.735			
GPK3	0.729			
GPK4	0.748			
GP1	0.860	0.847	0.849	0.653
GP2	0.753			
GP3	0.808			
EB1	0.738	0.858	0.864	0.614
EB2	0.713			
EB3	0.851			
EB4	0.824			
HC1	0.758	0.816	0.816	0.596
HC2	0.771			
HC3	0.787			
PBC1	0.824	0.900	0.900	0.694
PBC2	0.842			
PBC3	0.823			
PBC4	0.842			
GPI1	0.820	0.891	0.891	0.672
GPI2	0.818			
GPI3	0.787			
GPI4	0.853			

Note: CA- Cronbach's Alpha; CR- Composite Reliability; AVE- Average variance extracted

The results indicated that all constructs exhibited "Average variance extracted (AVE)" and "Composite Reliability (CR)" (table 2) values that seem to be greater than the threshold levels of 0.5 and 0.7, respectively, ensuring the convergent validity of variables (Hair, et al., 2010). A further demonstration of the convergent validity of the measurements is the indication that the factor loadings for all the constructs were significant and higher than 0.7 (Hair, et al., 2010). The reliability of the measures in each construct was ensured by Cronbach's Alpha (CA) coefficients, which were all higher than 0.7. (Hair, et al., 2010) shown in Table 2.

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Table 3. Discriminate validity

	GPK	GP	EB	HC	PBC	GPI
GPK	**0.747**					
GP	0.652***	**0.808**				
EB	0.549***	0.556***	**0.784**			
HC	0.251***	0.264***	0.280***	**0.772**		
PBC	0.685***	0.547***	0.593***	0.306***	**0.833**	
GPI	0.656***	0.590***	0.729***	0.382***	0.643***	**0.820**

To verify the discriminant validity, we used Fornell Larcker's (1981) criterion, which compares the AVE value with corresponding correlation values with other variables. According to Hair et al. (2019), the square root value of AVE must be higher than the comparable correlation values with other factors. Table 3 displays the factors' discriminant validity.

4.1 Structural Model

In AMOS, to get the model fit results. The estimates are: CMIN/Df is 1.607, and the value is < 5 (Hu & Bentler, 1999), obtained threshold value. The value for CFI (0.969), which is >0.9 (Bentler, 1990). NFI (0.922), which is >0.9. AGFI (0.895), which is > 0.8, indicates satisfactory goodness of fit.TLI (0.964) and IFI (0.969), which is >0.9 (Kline, 2012); PCFI (0.831), which is >0.5; and PNFI (0.79), which is also >0.5 (Byrne, 2001). The value of RMSEA (0.045) which is < 0.08 (Browne & Cudeck, 1992). All the values are within the range.

Table 4. Results for Specific direct paths

H	Path	Estimate	S.E.	C.R.	P	Decision
H1(a)	GPK -> EB	0.411	0.089	4.618	***	Supported
H1(b)	GPK -> HC	0.28	0.064	4.375	***	Supported
H1(c)	GPK -> PBC	0.692	0.076	9.105	***	Supported
H1(d)	GPK -> GPI	0.231	0.11	2.100	0.022	Supported
H2(a)	GP -> EB	0.278	0.072	3.861	0.001	Supported
H2(b)	GP -> GPI	0.086	0.065	1.323	0.219	Not Supported
H3(a)	EB -> GPI	0.429	0.073	5.877	***	Supported
H4(a)	HC -> PBC	0.112	0.066	1.697	0.041	Supported
H4(b)	HC ->GPI	0.141	0.059	2.389	0.004	Supported
H5(a)	PBC -> GPI	0.151	0.072	2.097	0.039	Supported

This study performed mediating effects following Hypothesis.

Table 5. Specific Indirect effect

H	Indirect Path	Estimate	Lower	Upper	P-Value	Decision
H3(b)	GPK --> EB --> GPI	0.177***	0.105	0.323	0.001	Supported
H3(c)	GP --> EB --> GPI	0.119**	0.047	0.198	0.006	Supported
H4(c)	GPK --> HC --> GPI	0.040**	0.014	0.094	0.006	Supported
H5(b)	GPK --> PBC --> GPI	0.105*	0.02	0.232	0.049	Supported

5. DISCUSSION

This study model is used to comprehend the relationships between green product knowledge, green packaging, environmental beliefs, health consciousness, perceived behaviour control in relation with green purchase intention.

The results show a substantial relationship between green product knowledge and perceived behavioural control, health consciousness, environmental beliefs, and, ultimately, green purchase intention. It indicates consumers are more likely to adopt stronger beliefs about the environment, acquire knowledge of health-related issues, and feel more in control of their purchasing behaviour when adequately informed about green products (Hoque et al., 2018; Sharma & Foropon, 2019). These factors subsequently influence their intention to buy eco-friendly products. This corresponds to previous research (Sutanto & Wulandari, 2023; Majeed et al., 2022; Wang et al., 2019), which emphasises the importance of understanding in shaping the significance and actions related to sustainable consumption.

Comparable, the study identified that although green packaging affects environmental tract that corresponds to advanced research (Majeed et al., 2022; George et al., 2023), it has no direct effect on consumers' intentions of making green shopping. This research suggests that awareness of personal consciousness and environmental issues under environmentally friendly packaging can increase, it cannot always result in real purchases. The study also shows that environmental beliefs strongly influence the intention of buying green products. This result corresponds to previous studies (Majeed et al., 2022; Abeysekera et al., 2022; George et al., 2023; Hoang Yen & Hoang, 2023) showing that customers who have strong environmental decisions are more likely to use environmentally friendly purchases.

In addition, health consciousness affects green buying intentions and perceived behavioural control (Hoang Yen & Hoang, 2023; Xu et al., 2020; Li & An, 2025). This means consumers with high prioritization of health problems are more likely to buy environmentally friendly products. Customers' desire for organic items supports this conclusion because people concerned about their health are more likely to choose the elements that support their good (Chaurasiya et al., 2024; Pahari et al., 2024). Because of this, companies can use health materials in their marketing campaigns to attract customers who are concerned about their health.

Then, research suggests that perceived behavioral control strongly influences the intention of buying green products (Sousa et al., 2022; Shang et al., 2024). This emphasizes the role of consumer perceptions in determining how easy or challenging it is to purchase green products. In addition, this research emphasises the dissemination roles as environmental beliefs, health consciousness and perceived behavioural control when it comes to affecting green buying intention.

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Green product knowledge affects important psychological aspects, which in turn affects the intention of indirect procurement of green products. Environmental beliefs act as a link between environmentally friendly approaches and consumers' intentions to purchase green products (Majeed et al., 2022). Similarly, this association is communicated by health consciousness, as customers are more likely to choose green products when they know about health benefits. In addition, perceived behaviour control is important because those who believe they can do green shopping are more likely to follow through their plans.

Similarly, the relationship between green packaging and green purchasing intentions is conveyed by environmental faith. Although environmentally friendly packaging does not increase sales, it helps to support environmental considerations, affecting how consumers behave (Gyamfi, 2022; Rovčanin, 2024). This emphasises how companies should integrate green packaging into a major stability aspect to increase their impact on consumer options.

6. IMPLICATIONS

6.1 Theoretical implications

This study contributes to the body of knowledge on green consumer behaviour by offering a deeper understanding of the underlying psychological processes influencing green purchase intentions. The study reveals that green packaging does not directly impact consumer purchase intention, but it is influenced through the mediating factor of environmental beliefs, offering valuable theoretical insight. (Majeed et al., 2022; George et al., 2023; Sutanto & Wulandari, 2023). In this study, the use of the Stimulus organism response (SOR) framework provides a strong theoretical basis for understanding consumer behaviour towards green FMCG products. Considering green product knowledge and green packaging to be stimuli, the model illustrates how external cues trigger internal psychological processes. Moreover, Environmental beliefs, health consciousness, and perceived behaviour control play the role of the organism component, which affects consumers' choices. This approach emphasises the complex role of intellectual and emotional factors in consumer judgments about green FMCG products, building on standard behaviour models.

In addition, the study provides empirical evidence that environmental beliefs mediate the relationship between both green product knowledge and green packaging with green purchase intention, indicating that green product knowledge and green packaging influence purchase decisions through strengthened environmental beliefs. This study contradicts the common belief in environmentally friendly marketing that packaging alone can influence behaviour by showing that green packaging does not directly affect purchase intention but rather operates through environmental perception. Overall, by highlighting the part psychological mediators play in the decision-making process, this study broadens theoretical viewpoints on green consumption.

6.2 Practical implications

This study provides helpful insights for companies, marketers, and legislators who want to encourage environmentally friendly consumption. consumers' familiarity with green products and packaging shapes their environmental beliefs, which affect their purchase intentions. Therefore, raising consumer awareness through marketing initiatives and education can be a calculated move to encourage a greater dedication to eco-friendly buying. Customers are more

likely to follow through on their plans when they believe they have the skills, information, and resources necessary to make sustainable purchases. Therefore, companies and regulators should endeavour to lower obstacles like exorbitant prices, restricted availability, and unclear information to encourage green purchasing behaviour.

Moreover, FMCG marks should prefer sustainable materials and clearly reveal these properties in their message to appeal to environmentally conscious buyers. Additionally, positioning a product with health benefits and the use of natural ingredients and toxin-free materials increases the fascination. When companies show how their products are suitable for people and the environment, it becomes an impressive selling point.

Furthermore, Eco-certifications, sustainability narratives, and transparent labelling can all increase customer engagement and trust. However, Stricter environmental laws, incentives, and subsidies are some ways that policymakers can encourage this change and create an atmosphere that is more conducive to sustainable consumer behaviour.

In addition, collaborating with health and sustainability influencers helps brands improve their relationships with consumers. Gathering consumer judgments about eco-friendly products and conducting surveys or interactive campaigns promotes consumer engagement and amplifies their perceived choices. However, when FMCG products are green, easy to get, and affordable, consumers can choose healthier options for themselves and the environment.

7. CONCLUSIONS

Through developing and evaluating a conceptual model of green purchase intentions in the Indian context, this study contributes to the body of information regarding consumer behaviour in the FMCG sector's sustainable consumption. This study highlights the importance of factors like environmental beliefs, health consciousness, and perceived behaviour control in influencing consumers' intentions to make environmentally friendly purchases, in addition to product knowledge or the packaging itself. SOR framework helps to reveal the factors that impact green purchasing intention, providing valuable information for marketers and policymakers to encourage sustainable consumption.

Despite the contribution, the study has some limitations. This study was limited to consumers in Visakhapatnam, India, which could limit the generality of findings to other areas. Additionally, the study included consumers from only a few cities, which may not fully reflect the variations in user intentions across other countries, regions, and ethnic groups. Furthermore, cross-sectional surveys make it impossible to notice shifts in consumer habits or choices with time.

Future studies should examine how external factors like perceived pricing fairness, social influence, and regulatory frameworks affect consumers' decisions to make green purchases. Moreover, qualitative methods could provide in-depth information on consumers' opinions and problems in purchasing green products. Additionally, investigating the effect of digital platforms and social media on green purchasing intention should be a primary focus for the future.

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Author contributions

Conceptualization, S.S., V.V.D.P.K, G.N.P.V.B and C.S.; Methodology, S.S., V.V.D.P.K and C.S; Software, V.V.D.P.K and C.S.; Data acquisition, S.S., V.V.D.P.K, G.N.P.V.B and C.S.; Analysis and interpretation, S.S., V.V.D.P.K and C.S.; Writing- Preparation of the draft, S.S., V.V.D.P.K, G.N.P.V.B and C.S.; Supervision: V.V.D.P.K and G.N.P.V.B.; Writing-Revision & Editing, S.S., V.V.D.P.K, G.N.P.V.B and C.S. All authors read and agree with the published version of the manuscript.

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Appendix A. Questionnaire items

Construct	Items	source
Green product knowledge	GPK1: I am familiar with green FMCG products	(Nekmahmud et al., 2022; Ojiaku et al., 2018)
	GPK2: When I go shopping, I frequently see green FMCG products in shopping venues	
	GPK3: I can think of some brands when talking about green FMCG products.	
	GPK4: I know how to find environmental- related information on green FMCG products	
Green Packaging	GP1: Green packaging is important in protecting environment	(Shabbir et al., 2020; Majeed et al., 2022; Mahmoud et al., 2022)
	GP2: I have knowledge about the benefits of green packaging	
	GP3: Biodegradable packaging is an important consideration for green customers	
Environmental beliefs	EB1: I believe buying green FMCG products helps to fulfill my social responsibility	(Lee & Lee, 2024; Majeed et al., 2022)
	EB2: I believe using green FMCG products helps prevent resource depletion.	
	EB3: I believe green FMCG products helpful to solve environmental problems with little effort in environmental improvement	
	EB4: I believe the balance of nature is very delicate and easily upset	

Construct	Items	source
Health consciousness	HC1: I carefully choose green FMCG products to ensure the good health	(Xu et al., 2020; Shah et al., 2021; Nicolae 2024)
	HC2: I think I am a consumer with health conscious	
	HC3. I prefer to buy green FMCG products for their health advantages	
Perceived behavioural control	PBC1: I have enough time, resources, money and willingness to buy green FMCG products	(Wang et al., 2018; Nekmahmud et al., 2022)
	PBC2: I know where to purchase green FMCG products	
	PBC3: I can decide whether to purchase green FMCG products or not	
	PBC4: I am fully confident that I should buy or use green FMCG products	
Green purchase intention	GPI1: I plan to purchase green FMCG products in the future	(Chen, K., & Deng, 2016; Nekmahmud et al., 2022)
	GPI2: I am willing to purchase green FMCG products	
	GPI3: The next time to buy, the possibility of choosing green FMCG products is very high.	
	GPI4: Comparing with ordinary non-green FMCG products, I am more willing to buy green FMCG products.	