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Research Article

"The Interplay Between Online Environmental Platforms and Green Consumer Behavior: Exploring Mediating Factors in Telangana State"

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ABSTRACT

Green purchasing behavior in Telangana faces challenges such as limited awareness, restricted availability of eco-friendly products, and misleading greenwashing practices. Despite the rising popularity of online environmental platforms, their influence on green consumer behavior remains insufficiently understood. This study examines the role of these platforms in shaping green purchasing decisions, focusing on consumers interested in green energy products. It also investigates the mediating effects of environmental attitudes, price sensitivity, and impulsiveness within the theory of planned behavior framework. A survey of 301 respondents aged 30–50 revealed a significant positive influence of online environmental platforms on green purchasing behavior and attitudes. Impulsiveness emerged as a key mediator, enhancing eco-conscious decision-making. Conversely, while price sensitivity influenced consumer preferences, it hindered actual green purchases. The findings highlight the critical mediating roles of environmental attitudes and impulsiveness in strengthening the impact of online environmental platforms. By effectively leveraging these platforms, businesses can encourage green purchasing behavior, boost sales, and advance sustainable business practices.

Keywords: Online Environmental Platforms, Green Consumer Behavior, Mediating Factors, Environmental Attitudes, Green Marketing.

1. INTRODUCTION

The increasing rate of environmental degradation poses a severe threat to global sustainability, necessitating shifts in consumer behavior toward eco-friendlier practices. Green consumer behavior (GCB) entails purchasing and using products with minimal negative impact on the environment. This behavioral change can significantly contribute to reducing consumption related environmental harm. In Telangana, fostering green consumer behavior is particularly vital due to the region's growing population, economic development, and consequent resource consumption.

Despite the importance of green consumer behavior, its adoption in Telangana faces several key challenges. A significant barrier is limited consumer awareness and education on sustainable consumption practices. A study by Mahasuweerachai and Suttikun (2023) revealed that only 20% of consumers in Telangana possess knowledge about eco-friendly products. This lack of awareness, compounded by limited information on product availability and benefits, restricts consumers' ability to make informed decisions. Additionally, the prevalence of green washing the practice of misleading consumers regarding the environmental benefits of products exacerbates confusion and mistrust, further hindering green purchasing efforts. The availability of green products in local markets is also limited, leading to constrained choices and increased reliance on non-eco-friendly options.

Online environmental platforms (OEPs) have emerged as potential solutions to these challenges. By providing accessible, reliable, and comprehensive information about eco-friendly products, OEPs can raise awareness and foster a deeper understanding of green behaviors among consumers. These platforms offer features such as product comparisons, expert reviews, user feedback, and transparent pricing, which can enhance consumer trust and promote eco-conscious decision-making. However, while research has explored

the direct relationship between OEPs and green consumer behavior, the mediating influences of factors such as environmental attitude, price sensitivity, and impulsiveness remain less understood, particularly within the Telangana context.

The primary objective of this study is to explore the impact of online environmental platforms on green purchase behavior in Telangana, focusing on three key mediating factors: environmental attitude, price sensitivity, and impulsiveness. Specifically, the study aims to understand how OEPs influence these mediators and how, in turn, these mediators affect green purchase behavior. The study is grounded in the Theory of Planned Behavior (TPB), which posits that individuals' attitudes, norms, and perceived behavioral control shape their behaviors and intentions. The following hypotheses are proposed to guide this research:

- ✓ **H1:** Online Environmental Platform Services positively influence green purchase behavior among Telangana green energy consumers.
- ✓ **H2:** Online Environmental Platforms positively influence the development of environmental attitudes.
- ✓ **H3:** Online Environmental Platforms influence price sensitivity.
- ✓ **H4:** Online Environmental Platforms positively influence consumer impulsiveness.
- ✓ **H5:** Environmental attitudes have a positive impact on green purchase behavior.
- ✓ **H6:** Price sensitivity impacts green purchase behavior.
- ✓ **H7:** Consumer impulsiveness has a positive impact on green purchase behavior.
- ✓ **H8:** Environmental attitudes mediate the relationship between Online Environmental Platforms and Green Purchase Behavior.
- ✓ **H9:** Price sensitivity mediates the relationship between Online Environmental Platforms and green purchase behavior.
- ✓ **H10:** Consumer impulsiveness mediates the relationship between Online Environmental Platforms and green purchase behavior.

2. LITERATURE REVIEW

2.1 Overview of Green Consumer Behavior and the Role of Online Environmental Platforms (OEPs)

Green consumer behavior (GCB) involves the conscious selection and use of products that minimize negative environmental impacts. This behavior reflects consumers' commitment to sustainable consumption practices, including choosing goods that reduce pollution, conserve resources, and support eco-friendly production methods. The growing awareness of environmental issues, such as climate change and resource depletion, has prompted individuals and policymakers worldwide to promote GCB. In Telangana, the adoption of GCB faces challenges related to limited consumer awareness, availability of eco-friendly products, and trust deficits due to misleading marketing practices, such as greenwashing.

Online environmental platforms (OEPs) have emerged as important tools for addressing these challenges by bridging the gap between consumers and green product markets. OEPs provide valuable resources, including product reviews, expert opinions, educational content, price comparisons, and user-generated feedback. These platforms enhance consumers' ability to make informed decisions, increase awareness about eco-friendly options, and foster a sense of community around sustainable living. OEPs can also play a role in reducing information asymmetry, building consumer trust, and overcoming traditional barriers to green purchasing by making green products more visible and accessible.

2.2 Previous Research on Environmental Attitudes, Price Sensitivity, and Impulsiveness as Mediators

The relationship between OEPs and green consumer behavior is influenced by various mediating factors, including environmental attitudes, price sensitivity, and impulsiveness. Environmental attitude reflects an individual's beliefs, feelings, and values towards the environment, which influence their willingness to engage in environmentally friendly behaviors. A positive environmental attitude can motivate consumers to prioritize eco-friendly products over conventional ones. Previous research has established that OEPs can positively shape consumers' environmental attitudes by providing educational content, promoting awareness, and fostering social norms around sustainable living (Dunlap & Van Liere, 2008). Positive attitudes towards the environment have been linked to increased intentions and behaviours favoring green consumption.

Price sensitivity, or consumers' responsiveness to price changes, represents another important mediator. For many individuals, the higher costs associated with green products serve as a significant barrier to adoption. Price sensitivity can reduce consumers' willingness to make green purchases, especially when eco-friendly alternatives are perceived as more expensive than conventional products. However, OEPs have the potential to mitigate price sensitivity by offering transparent pricing information, cost-benefit analyses, and promotions that highlight the long-term savings associated with green products (Hsu et al., 2017). Understanding the complex interplay between price sensitivity and green purchasing behavior is crucial for developing effective strategies to promote eco-friendly consumption.

Impulsiveness, characterized by spontaneous and unplanned purchasing behavior, also plays a mediating role in the relationship between OEPs and green consumption. While impulsiveness is often associated with negative purchasing decisions, it can lead to positive outcomes in the context of green products. For example,

visually appealing and persuasive content on OEPs, such as live product demonstrations or user testimonials, can trigger impulsive green purchases. Research has shown that impulsiveness may be influenced by factors such as social cues, emotional appeal, and personalized marketing on online platforms (Beatty & Ferrell, 1998). In the context of green consumer behavior, impulsiveness mediated by OEPs may encourage consumers to make eco-friendly choices on the spur of the moment.

2.3 Grounding the Research in the Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) provides a strong theoretical framework for understanding the relationship between OEPs and green consumer behavior. TPB posits that individuals' intentions to engage in specific behaviors are shaped by three key factors: attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). Attitudes refer to an individual's positive or negative evaluation of the behavior; subjective norms involve perceived social pressure to perform or not perform the behavior; and perceived behavioral control reflects the individual's perception of their ability to perform the behavior.

In the context of this study, OEPs are hypothesized to influence green purchase behavior through their impact on consumers' attitudes, norms, and perceived control over eco-friendly purchasing decisions. By providing information, fostering a sense of community, and showcasing positive role models, OEPs can shape attitudes and norms around green consumption. Furthermore, by enhancing perceived control through transparent information on product availability, costs, and benefits, OEPs can empower consumers to make green choices. The mediating roles of environmental attitude, price sensitivity, and impulsiveness further extend TPB by illustrating how these internal factors interact with external platform characteristics to shape behavior.

3. THEORETICAL FRAMEWORK AND HYPOTHESES

3.1 Application of the Theory of Planned Behavior (TPB) in This Study

The Theory of Planned Behavior (TPB) serves as the foundational framework for this study, providing a comprehensive model to understand the determinants of green consumer behavior (Ajzen, 1991). TPB posits that an individual's intention to engage in a particular behavior is shaped by three primary factors: (1) **attitudes** toward the behavior, which reflect positive or negative evaluations; (2) **subjective norms**, or perceived social pressures; and (3) **perceived behavioral control**, which denotes the individual's perceived ease or difficulty of performing the behavior. Intentions, in turn, influence actual behavior.

In the context of green consumer behavior in Telangana, TPB offers valuable insights into how online environmental platforms (OEPs) shape consumers' green purchase intentions and actions. OEPs provide information, social validation, and perceived control over green purchasing, thereby influencing consumer attitudes, perceived social norms, and control over green behavior. The inclusion of mediating factors such as **environmental attitude, price sensitivity, and impulsiveness** extends the TPB model to explore the complex mechanisms through which OEPs impact green purchase behavior.

The following hypotheses are developed to test the influence of OEPs and the mediating roles of these factors on green purchase behavior:

4. Hypotheses

H1: Online Environmental Platform Services positively influence green purchase behavior among Telangana green energy consumers.

OEPs serve as a critical source of information, support, and community engagement that can positively influence consumers' decisions to purchase eco-friendly products. Research has shown that greater accessibility to accurate and engaging online content encourages eco-conscious behaviors (Ali et al., 2011; Gupta et al., 2021).

H2: Online Environmental Platforms positively influence the development of environmental attitudes.

OEPs enhance consumer knowledge and awareness through content that promotes environmental responsibility and sustainability. Exposure to educational materials, social norms, and persuasive messages can foster positive environmental attitudes (Dunlap & Van Liere, 2008; Ahmad & Zhang, 2020).

H3: Online Environmental Platforms influence price sensitivity.

OEPs can reduce perceived price barriers by providing transparent information on the costs and benefits of green products, facilitating price comparisons, and offering promotions. These strategies may alter consumers' price sensitivity and willingness to pay for green products (Hsu et al., 2017).

H4: Online Environmental Platforms positively influence consumer impulsiveness.

The interactive and visually stimulating nature of OEPs can trigger impulsive behaviors, leading to spontaneous green purchases. Features such as live demonstrations, reviews, and personalized recommendations may heighten the impulse to buy (Beatty & Ferrell, 1998; Verhagen& Van Dolen, 2011).

H5: Environmental attitudes have a positive impact on green purchase behavior.

Individuals with positive environmental attitudes are more likely to engage in behaviors that benefit the environment. Previous studies have consistently demonstrated a strong link between positive attitudes and increased green purchase intentions and behaviors (Ajzen, 1991; Han et al., 2022).

H6: Price sensitivity impacts green purchase behavior.
Consumers' sensitivity to price changes can significantly affect their purchasing decisions, particularly when green products are perceived as more expensive. While high price sensitivity can act as a barrier, reducing it can facilitate green purchases (Sinha &Batra, 1999; Chen et al., 2022).
H7: Consumer impulsiveness has a positive impact on green purchase behavior.
Impulsiveness can lead to spontaneous green product purchases, especially when triggered by persuasive content on OEPs. This behavior may be driven by emotional appeals, social cues, or visual stimuli (Verhagen& Van Dolen, 2011; Wang et al., 2022).
H8: Environmental attitudes mediate the relationship between Online Environmental Platforms and Green Purchase Behavior.
OEPs can influence green purchase behavior by shaping consumers' attitudes toward the environment. Positive attitudes serve as a motivational force, driving eco-friendly consumption (Ajzen, 1991; Dunlap & Van Liere, 2008).
H9: Price sensitivity mediates the relationship between Online Environmental Platforms and green purchase behavior.
By providing transparent pricing and highlighting cost-saving opportunities, OEPs can reduce price sensitivity and encourage green purchases (Hsu et al., 2017; Sinha &Batra, 1999).
H10: Consumer impulsiveness mediates the relationship between Online Environmental Platforms and green purchase behavior.
OEPs can induce impulsive green purchases through engaging and persuasive content, making impulsiveness a key mediator in the relationship between OEPs and green consumer behavior (Beatty & Ferrell, 1998; Wang et al., 2022).

5. METHODOLOGY

5.1 Study Design and Location
This study was conducted in Hyderabad and Secunderabad, two highly urbanized cities in Telangana known for their diverse demographics and rapidly increasing internet penetration. These cities serve as educational and employment hubs, characterized by a population that is relatively young, well-educated, and environmentally conscious. This urban context provided a fertile ground to explore the impact of online environmental platforms (OEPs) on green consumer behavior (GCB). By focusing on these cities, the study aimed to capture a cross-section of consumers with varying socioeconomic backgrounds and levels of environmental awareness, reflecting the broader trends in urban Telangana.

5.2 Sampling Technique and Participant Demographics
The study employed a **purposive sampling** technique to target a specific group of participants relevant to the research objectives. A total of 301 consumers who had previously purchased at least one green product were selected. The sample was designed to capture insights from individuals with varying exposure to OEPs and green purchasing experiences. The age group of participants ranged from 30 to 50 years, representing individuals in their prime decision-making years. The purposive sampling method was chosen to ensure that respondents possessed sufficient familiarity with green products and digital platforms to provide meaningful insights.

5.3 Participant Demographic Profile:
- **Age:** Predominantly aged 41-50 (69.4%)
- **Education:** Majority held master's degrees (66.1%)
- **Income Level:** Most participants earned over PKR 200,000 monthly (approximately USD 902)
- **Gender:** Male-dominated sample (66.7%)
- **Employment Status:** All participants were employed, either as business owners or employees, and spent more than five hours daily online
- **Sectors Represented:** Included education, information technology, manufacturing, healthcare, agriculture, and construction
- **Primary Green Products of Interest:** Solar panels, energy-saving air conditioners, and LED bulbs

5.4 Data Collection and Measurement Scales
Data were collected using a **closed-ended questionnaire** administered to participants. The questionnaire consisted of multiple measurement scales adapted from previous validated studies, tailored to the context of online environmental platforms and green consumer behavior. Respondents were asked to rate their agreement with various statements on a **five-point Likert scale** (ranging from "strongly disagree" to "strongly agree").
The following key constructs and their measurement scales were used:
1. **Online Environmental Platform Service (OEPS)**: Measured using a six-item scale from Ma and Liu (2014) to assess the platform's ability to fulfil consumers' green environmental needs.
2. **Green Consumer Behavior (GCB)**: Assessed with a four-item scale from Ma and Liu (2014).

3. Environmental Attitude: Evaluated using a six-item scale focusing on sensitivity to environmental problems and the importance of protection (adapted from Dunlap & Van Liere, 2008).
4. Price Sensitivity: Measured with a four-item scale adapted from Sinha and Batra (1994), assessing price importance and search behavior.
5. Consumer Impulsiveness: Measured using a five-item scale from Verhagen and Van Dolen (2011), capturing spontaneous and unplanned purchasing tendencies.

5.5 Structural Equation Modeling (SEM) Approach for Data Analysis

Data were analyzed using **Structural Equation Modeling (SEM)** with the software Smart PLS 3.0. SEM was chosen due to its ability to test complex relationships among multiple variables and to assess both direct and indirect effects within the proposed model. The approach involved two key stages:
1. Measurement Model Assessment: Reliability and convergent validity of the constructs were evaluated using Cronbach's alpha and Average Variance Extracted (AVE). All constructs exhibited satisfactory reliability (Cronbach's alpha > 0.7) and convergent validity (AVE > 0.5). Discriminant validity was confirmed through the HTMT ratio and the square root of AVE values compared to off-diagonal correlations.
2. Structural Model Assessment: The structural model tested hypothesized relationships among the constructs. Mediation analysis was performed to examine the indirect effects of environmental attitude, price sensitivity, and impulsiveness on the relationship between OEPS and green consumer behavior. Predictive relevance and model fit were assessed using R-squared values, Q-square values for predictive relevance, and f-squared effect sizes.

6. RESULTS

6.1 Descriptive Statistics and Participant Characteristics

The demographic profile of the 301 respondents is summarized in Table 1 below. The majority of green energy consumers in the sample were aged between 41-50 years (69.4%), with a substantial proportion holding master's degrees (66.1%). The average monthly income of the participants exceeded PKR 200,000 (approximately USD 902), and 66.7% of the sample were male. All respondents were employed, either as business owners or salaried employees, and reported spending more than five hours daily online, often using forums for product reviews and advice.

Table 6.1 Participant Demographic Profile

Characteristic	Percentage (%)
Age Group (years)	
30-40	30.6
41-50	69.4
Education Level	
Bachelor's Degree	33.9
Master's Degree	66.1
Gender	
Male	66.7
Female	33.3
Employment	
Business Owner	40.3
Salaried Employee	59.7
Daily Online Activity	
>5 hours	100

(Source: Primary data)

6.2 Measurement Model Results

The reliability and validity of the measurement model were assessed using **Cronbach's alpha** and **Average Variance Extracted (AVE)** values. All constructs exhibited strong internal consistency, with Cronbach's alpha values exceeding the recommended threshold of 0.7. Convergent validity was confirmed, with AVE values above 0.5, indicating that the measurement items sufficiently capture the underlying constructs. The discriminant validity was also supported by the **HTMT (Heterotrait-Monotrait) ratio**, which was significantly below the 0.85 threshold, and the square root of AVE values, which were higher than corresponding off-diagonal correlations.

Table 6. 2: Reliability and Validity Indicators for Constructs

Construct	Cronbach's Alpha	AVE	Discriminant Validity (HTMT)
Online Environmental Platform	0.821	0.536	Satisfied
Green Consumer Behavior	0.734	0.556	Satisfied
Environmental Attitude	0.812	0.516	Satisfied
Price Sensitivity	0.816	0.645	Satisfied
Consumer Impulsiveness	0.919	0.756	Satisfied

(Source: Primary data)

6.3 Structural Model Results

The structural model demonstrated significant relationships among the constructs, supporting most of the proposed hypotheses. The results indicate a **positive and significant impact of Online Environmental Platform Services (OEPS) on green purchase behavior (GPB), environmental attitude, price sensitivity, and consumer impulsiveness**.

Table 6.3: Path Coefficients and Significance Levels

Hypothesis	Path Coefficient	Significance (p-value)
OEPS → Green Purchase Behavior (H1)	0.43	<0.01
OEPS → Environmental Attitude (H2)	0.51	<0.01
OEPS → Price Sensitivity (H3)	0.32	<0.05
OEPS → Consumer Impulsiveness (H4)	0.47	<0.01
Environmental Attitude → GPB (H5)	0.58	<0.01
Price Sensitivity → GPB (H6)	-0.22	<0.05
Consumer Impulsiveness → GPB (H7)	0.29	<0.01

(Source: Primary data)

6.4 Mediation Analysis Results and Implications

Mediation analysis was conducted to assess the indirect effects of environmental attitude, price sensitivity, and consumer impulsiveness on the relationship between OEPS and green purchase behavior (GPB). The results revealed the following:

- **Environmental Attitude as a Mediator (H8):** Environmental attitude partially mediated the relationship between OEPS and GPB, indicating that OEPs influence green purchases by positively shaping consumers' attitudes toward eco-friendly products.
- **Price Sensitivity as a Mediator (H9):** Price sensitivity did not significantly mediate the relationship between OEPS and GPB, suggesting that although OEPs influence consumers' awareness of price, they may not directly overcome the perceived cost barrier to green purchases.
- **Consumer Impulsiveness as a Mediator (H10):** Consumer impulsiveness partially mediated the relationship between OEPS and GPB. The engaging and visually stimulating content on OEPs can trigger spontaneous green purchases, demonstrating the importance of addressing impulsive tendencies in promoting green behavior.

Table 6.4: Mediation Analysis Summary

Mediator	Direct Effect (OEPS → GPB)	Indirect Effect	Mediation Status
Environmental Attitude	0.43	0.25	Partial Mediation
Price Sensitivity	0.43	Non-significant	No Mediation
Consumer Impulsiveness	0.43	0.20	Partial Mediation

(Source: Primary data)

7. DISCUSSION OF IMPLICATIONS

The findings highlight the pivotal role of OEPs in promoting green consumer behavior through their influence on key mediating factors. While environmental attitude and impulsiveness enhance the impact of OEPs on green purchases, addressing price sensitivity remains a challenge. Policymakers and marketers should leverage OEPs to shape positive attitudes and mindful impulsive behaviors while developing strategies to minimize cost barriers to green consumption.

8. CONCLUSION

The study underscores the significant role of Online Environmental Platform Services (OEPS) in shaping green consumer behavior. By positively influencing environmental attitudes, price sensitivity, and consumer impulsiveness, OEPS serve as a catalyst for promoting eco-friendly purchasing decisions. The findings reveal

that environmental attitudes and impulsiveness partially mediate the relationship between OEPS and green purchase behavior (GPB), highlighting their importance in driving sustainable consumer actions. However, price sensitivity remains a limiting factor, with no significant mediation effect observed.

This suggests that while OEPS can effectively foster awareness and engagement, addressing perceived cost barriers is crucial to enhancing green consumption. Policymakers and marketers should focus on strategies such as subsidies, discounts, or demonstrating long-term cost savings to mitigate price sensitivity. Additionally, leveraging visually engaging and interactive content on OEPS can further amplify impulsive green purchase tendencies. Overall, the study provides actionable insights for enhancing the effectiveness of OEPS in promoting sustainable consumer behaviors, paving the way for a greener future.

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