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Influence Of Sustainability Awareness, Environment Concern, And Green Product knowledge On Green Consumer Buying Behaviour In Ranchi, Jharkhand

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Abstract

This study examines the influence of sustainability awareness, environmental concern, and green product knowledge on green consumer buying behaviour in Ranchi, Jharkhand. In recent years, increasing environmental degradation, climate change, and resource depletion have led to a shift in consumer preferences towards environmentally friendly products. Sustainability awareness helps consumers understand the long-term impact of their consumption patterns, while environmental concern reflects their emotional involvement and responsibility towards environmental protection.

Additionally, knowledge about green products enables consumers to differentiate between conventional and eco-friendly alternatives. The study is based on primary data collected through a structured questionnaire from 100-150 respondents in Ranchi city. The data has been analyzed using percentage analysis and basic statistical tools with the help of MS Excel. The findings indicate that sustainability awareness and environmental concern significantly influence consumers' intention to purchase green products. However, limited knowledge about green product features, higher prices, and lack of availability act as major barriers to green purchasing behaviour in semi-urban regions like Ranchi. The study concludes that promoting environmental education, increasing awareness campaigns, and improving accessibility and affordability of green products can enhance green consumer behaviour. The results are useful for policymakers, marketers, and environmental organizations aiming to encourage sustainable consumption practices and support India's environmental sustainability goals.

Key words: Sustainability Awareness, Environmental Concern, Green Product Knowledge, Green Consumer Behaviour, Ranchi, Jharkhand

INTRODUCTION

Background of the study

Environmental degradation, climate change, pollution, and depletion of natural resources have become major concerns across the world. These issues have encouraged consumers to become more conscious about the environmental impact of their purchasing decisions. As a result, the concept of green consumer buying behaviour has gained significant importance in recent years.

Green consumer buying behaviour refers to the tendency of consumers to purchase products that are environmentally friendly, sustainable, recyclable, and less harmful to nature. Consumers are increasingly considering environmental factors while making purchasing decisions. This shift in consumer behaviour has encouraged businesses to adopt sustainable production methods and promote eco-friendly products.

Sustainability awareness plays an important role in shaping consumer behaviour. Consumers who understand environmental issues and sustainable development are more likely to support environmentally responsible products. Similarly, environmental concern influences consumers' attitudes toward environmental protection and motivates them to engage in sustainable consumption practices.

Another important factor is green product knowledge. Consumers who possess adequate information regarding the benefits, features, and environmental impact of green products are more likely to purchase them. Knowledge reduces uncertainty and increases confidence in purchasing eco-friendly products.

In Ranchi, Jharkhand, awareness regarding environmental sustainability has gradually increased due to educational initiatives, media exposure, and government campaigns. However, the extent to which sustainability awareness, environmental concern, and green product knowledge influence consumer buying behaviour remains an area requiring further investigation.

Statement of the Problem

Although awareness about environmental sustainability is increasing, many consumers still prefer conventional products over eco-friendly alternatives. Limited knowledge, perceived high prices, and lack of awareness may affect green purchasing decisions. Therefore, it is important to examine how sustainability awareness, environmental concern, and green product knowledge influence green consumer buying behaviour among consumers in Ranchi, Jharkhand.

Significance of the Study

The study contributes to understanding the factors that influence green consumer buying behaviour. The findings will help marketers, businesses, policymakers, and environmental organizations develop effective strategies to promote sustainable consumption. The study will also provide useful insights for researchers interested in consumer behaviour and environmental sustainability.

Scope of the Study

The study focuses on consumers residing in Ranchi, Jharkhand. It examines the influence of sustainability awareness, environmental concern, and green product knowledge on green consumer buying behaviour. The research is limited to the responses collected through a structured questionnaire from selected consumers in Ranchi.

RESEARCH GAP

Previous studies have examined green consumer buying behaviour in different countries and regions. Many studies have found positive relationships between sustainability awareness, environmental concern, green product knowledge, and green purchasing intentions. However, limited research has specifically focused on consumers in Ranchi, Jharkhand. Moreover, few studies have simultaneously examined the combined influence of sustainability awareness, environmental concern, and green product knowledge on green consumer buying behaviour in the local context. Therefore, this study attempts to fill this gap.

LITERATURE REVIEW

1. **Rustam et al. (2020)** studied the relationship between environmental awareness, firm sustainability exposure and green consumption behavior. The study revealed that environmental awareness as well as the companies' sustainability practices have a significant impact on green purchasing behavior, based on the survey data and information gathered from the companies' sustainability reports. The results indicated that the sustainable business activities positively influenced the consumers' eco-friendly consumption. The authors found that the importance of environmental awareness and corporate sustainability efforts are important in supporting green consumer behavior.
2. **Borah et al. (2024)** looked at the impact green consumer knowledge on green purchase behaviour of Generation Z consumers. The study showed that green product knowledge has a significant positive effect on green purchasing behavior based on data from Chinese consumers' surveys. The findings also indicated that the consumer social responsibility, green advertising, and consumer trust can enhance environmentally responsible consumer buying behavior. The authors suggested that the development of consumers' knowledge and awareness of green products can lead to sustainable consumption behavior.
3. **Maheshwari (2014)** explored the knowledge level about green marketing and effects on its purchasing pattern. The results indicated that the consumers had positive attitudes towards protecting the environment, and awareness, beliefs, and trust was important in shaping the consumers' purchase of eco-friendly. But the results of the study revealed that there is a lack in the exposure of consumers to green marketing communication. Based on the author's analysis, it was decided that more awareness programs and promotional activities can make Indians more motivated towards the use of green product in the Indian market.
4. **Khan et al. (2020)** explored consumer green behavior and its role in achieving environment sustainability. Consumer knowledge and environmental attitudes were seen to have a large positive effect on environmentally responsible behavior. It also pointed to the role that government interventions and environmental rules are playing in implementing sustainable consumption. Based on the results, the authors stated that attention to the environment and regulation of the appropriate kind would lead to reinforcement of green consumer behaviour and thus help contribute to environmental sustainability.
5. **Dagher et al. (2015)** aimed at examining the effect of environmental concern and environmental attitude on green purchasing behaviors with gender as a moderator. The results of the study showed that consumers with a higher attitude towards the environment and positive environmental attitudes will be more likely to buy green products. The findings also indicated that gender is one of the factors in strengthening these relationships. The authors reached a conclusion that making people more conscious of their environment and inculcating positive mindset on environmental protection, can greatly increase realization of sustainable buying decisions among the consumers.
6. **Chaudhary (2018)** used the Theory of Planned Behavior (TPB) was used to study the determinants of green buying behavior among young educated consumers in India. The study revealed that perceived value and consumers' willingness to pay a premium significantly affects green purchase intention, which also has positive effect on green buying behavior. The results emphasised the role of

environmental concern and awareness to motivate consumers in the selection of environmental friendly products. The author found that, consumer awareness regarding sustainability can be a significant driver for the strong green purchasing behavior among the Indian consumers, if the benefits and advantages of green products are made known to them.

7. **Dagher and Itani (2012)** examined the impact of environmental attitude, environmental concern and social influence on green purchasing behavior. The study revealed that people who have higher environmental concern and positive environmental attitudes are more prone to their buying green products. Social influence was also found to be an important influence on green buying behavior. The conclusion of the authors was that the promotion of environmental awareness and socially responsible behavior can help consumers to take environmentally responsible buying decisions.
8. **Newton et al. (2015)** investigated the effect of environmental concern on the intention to purchase environmentally friendly products, with learning strategies acting as mediating variables. The study results indicated that environment concerns are positively correlated with purchase intention both via intentional learning and incidental learning. In this respect, the results indicated that consumers that get knowledge and understanding towards environmental issues have tendency to develop intention to buy environmental friendly products. So their conclusion was that consumer education and environmental knowledge is necessary to encourage sustainable consumer behaviours.
9. **Arisal and Atalar (2016)** investigated the relationship between environmental concerns, collectivism and ecological purchase intention of Turkish consumers. The results indicated that environmental concern is a key influencing factor on consumers' willingness to pay for green products. The study also found that collectivist values enhance the environmental concern, and in turn, enhance ecological purchase intentions. The authors found that concern for the environment is one of the major motivations to sustain consumption and make environmentally responsive purchases.
10. **Cachero-Martínez (2020)** explored consumer attitudes towards organic products and how environmental concerns moderate the attitude towards purchasing intentions. It revealed that there is a significant relationship among consumer satisfaction, trust, positive attitudes toward organic product, as well as between environmental concern and the significant relationships. The study indicated that the significant relationships include consumer satisfaction – positive attitudes – purchase intention, consumer satisfaction – trust – purchase intention, trust – positive attitudes – purchase intention, and environmental concern – consumer satisfaction – positive attitudes – purchase intention. Environmentally conscious consumers had a more contributing mindset in forming positive attitudes and greater willingness to buy eco-friendly products. The author has also concluded that environmental concern is among very important factors in order to achieve sustainable consumption and green purchasing.
11. **Angelovska et al. (2012)** looked into the relationship between environmental concern and environmental awareness and consumer behavior regarding environmentally friendly products. The effect of environmental concern in predicting eco-friendly purchasing behavior was found to be strong; the more high awareness in the environment, the more determined consumers are to purchase green products and adopt sustainable consumption habits. Moreover, it was found that age and gender were demographic factors affecting environmental consciousness. From the above, the authors inferred that raising public awareness and concern will benefit green consumer behavior and sustainable development by utilizing education and awareness programs.
12. **Wang et al. (2019)** studied the effect of green product knowledge on green consumer intentions. The study confirmed that 'green product knowledge' has a positive and significant impact on 'green purchasing intention' and 'green trust procurement and perceived consumer effectiveness' are part of the link between these variables. Consumers who communicate their knowledge about the green products were more likely to trust the green products and feel that their purchases would help protect the environment. The authors concluded that education on green products is necessary in order to stimulate sustainable consumption.

13. **Chen and Deng (2016)** applied the Theory of Planned Behavior (TPB) and moved the focus to product knowledge. The results showed that Product Knowledge is a factor that significantly affects the relationship between attitudes, subjective norms, perceived behavioral control, and green purchase intention. Consumers who used to feel more knowledgeable about the products had more intentions to buy the ecological friendly goods. In conclusion, the authors determined that product knowledge plays a role in influencing green purchase intention, and that it is essential to be improved to create green purchase behavior.
14. **Sharma et al. (2013)** reviewed the study on customer buying intention for green products in Central India. The study revealed that the identified factors affecting green purchasing behavior such as environmental awareness, environmental concern, price and quality, perceived consumer effectiveness, environmental information, attitudes, environmental promotion and product availability. The findings underscored environment awareness and concern as the most important drivers in consumers' buying of green products. Featuring a solution to raise awareness and deliver correct and complete information regarding 'green' products to promote purchase behavior that is environmentally responsible, the authors have concluded that marketers should look into these.
15. **Kumar et al. (2017)** applied a framework derived from Theory of Planned Behavior (TPB) to consumers to inspect the consumer buying behavior towards environmentally friendly products. The results showed a positive relationship between consumers' knowledge about the environment and their attitude towards sustainable products, with the latter correlating to higher intention to purchase sustainable products. The results also indicated that environmental knowledge enhances attitude–purchase intention relationship. The authors proposed that raising consumer environmental knowledge can contribute to the favourable attitudes and buying environmental products.

RESEARCH QUESTIONS

1. Does sustainability awareness influence green consumer buying behaviour?
2. Does environmental concern affect consumers' intention to purchase eco-friendly products?
3. Does green product knowledge influence consumers' purchasing behaviour toward green products?

RESEARCH OBJECTIVES

1. To study the level of awareness regarding sustainability among consumers of Ranchi and its impact on green buying behaviour.
2. To examine the effect of environmental concern on consumers' attitudes and intention to purchase eco-friendly products.
3. To analyze how green product knowledge is related to consumers' intention and purchasing behaviour of green products.

HYPOTHESES

H0 (Null Hypothesis):

Sustainability awareness, environmental concern, and green product knowledge do not have any significant impact on green consumer buying behavior.

H1 (Alternative Hypothesis):

Sustainability awareness, environmental concern, and green product knowledge have a significant impact on green consumer buying behavior.

RESEARCH METHODOLOGY

Research Design

This study is designed descriptive and quantitative. The present work focuses upon the study of the effect on Green Consumer Buying behaviour in view of the consumers awareness towards Sustainability, Concerns about Environment and Knowledge of Green Product in Ranchi city, Jharkhand.

Data Sources

Both primary and secondary data have been used in the study.

Primary Data:

Primary data were gathered by asking consumers a structured question.

Secondary Data:

Secondary data was gathered from research journals, books, articles, internet sites, and the work of researchers that have already examined green consumer behaviour and sustainability.

Sampling Technique and Sample Size

Convenience sampling was conducted to recruit the subjects of the study. There were 101 respondents who were surveyed from Ranchi, Jharkhand.

Data Collection Method

The information gathered using a structured questionnaire with five point Likert scale of the following two items: demographic questions and questions regarding sustainability awareness, environmental concern, green product knowledge and green buying behaviour. Use statistical tools and software used

Data were presented and analyzed with the help of MS Excel.

These statistical tools have been used:

- Frequency Analysis
- Percentage Analysis
- Mean Score Analysis
- TAT Relations with Families Literacy Analysis (Spearman Correlation)
- Correlation Analysis
- Regression Analysis

DATA ANALYSIS AND HYPOTHESIS TESTING

Reliability Analysis

Cronbach's Alpha was used to test the reliability of the questionnaire. The Reliability score got was 0.896.

Table 1: Reliability Statistics

Cronbach's Alpha = 0.896

Interpretation:

There is good internal consistency when the Cronbach's Alpha score is more than 0.70. Therefore, this questionnaire is regarded as being reliable for further analysis.

Demographic Analysis

Table 2: Age Distribution

18–22 Years: 43 Respondents

23–27 Years: 33 Respondents

28–32 Years: 17 Respondents

Above 32 Years: 8 Respondents

Interpretation:

The respondents were mostly in the age group of 18-22 with high number of young consumers.

Table 3: Gender Distribution

Female: 50

Male: 48

Others: 3

Interpretation:

The samples are in a balanced ratio of males to females.

Table 4: Educational Qualification

Undergraduate: 37

Postgraduate: 26

Professional Course: 16

Others: 22

Interpretation:

The sample was fairly educated as the majority of respondents were undergraduate students.

Mean Score Analysis

The results of the important mean scores can be seen in table 5.

Government policies should encourage the development and use of green products – 3.96

Greenert products are better for the environment – 3.89

Detailed understanding of the characteristics of green products – 3.77

Value and preference toward sustainable packaging – 3.77

Preference for environmentally friendly products – 3.75

Interpretation:

The results of the mean values show that the respondents' attitudes towards sustainability and green products are generally positive.

Correlation Analysis

Table 6: Correlation Results

Sustainability Awareness and Green Buying Behaviour = 0.657

The correlation coefficient of the five environmental issues and the Green Buying Behaviour is 0.735.

Interpretation: The findings show that there is a positive correlation between the independent variables and the dependent variable, green consumer buying behaviour. For their purchasing behaviour, concern regarding the environment has the strongest relationship.

Regression Analysis

Table 7: Regression Results

Variable: Sustainability Awareness

Beta Coefficient: 0.434 p-value: < 0.001

Variable: Environmental Concern

Beta Coefficient: 0.523 p-value: < 0.001

$R^2 = 0.633$

Interpretation:

$R^2 = 0.633$ accounts for 63.3% of the variance in green consumer buying behaviour.

The p-values for both variables are less than 0.05, thus statistically significant on green consumer buying behaviour.

Hypothesis Testing

Null Hypothesis (H_0):

Green consumer buying behaviour is independent of the awareness of sustainability, environmental concern and green product knowledge.

Alternative Hypothesis (H_1):

Sustainability awareness, environmental concern and green product knowledge is affecting green consumer buying behaviour.

Decision Rule:

If p-value $< 0.05 \rightarrow$ Reject H_0

If p-value $> 0.05 \rightarrow$ Accept H_0

Result:

Based on regression analysis, the p values obtained are less than 0.05. So the null hypothesis is rejected and alternative hypothesis is accepted.

Interpretation of Results

The results have confirmed the importance of the influence of the sustainability awareness on the green consumer buying behaviour. If consumers are informed about sustainability related issues, they will be more inclined to make an environmentally friendly choice. Their main concern is also the environment, and it positively affects their buying behavior. Those individuals who are mindful of protecting the environment are more likely to purchase green products. The findings further indicate that an increase in knowledge about green products will make consumers more favorable about eco-friendly buying decisions. Therefore, the knowledge about sustainable awareness, attitudes regarding the environment and green product knowledge has a significant effect upon green consumer buying behavior in the city of Ranchi, Jharkhand.

Objective-wise Achievement of Objectives

Objective 1: To find out the awareness among consumers of the Ranchi city regarding sustainability and its effect on green buying behaviour. Achievement Status: Achieved.

Supporting Findings: The study revealed that the level of consumers' awareness of sustainability is a highly positive factor in the domain of green consumption. The regression results demonstrated that there was a statistically significant relationship ($P < 0.05$) between the two variables: buy green products in the markets and sustainability awareness.

Objective 2: Explore the impact of environmental concerns on attitudinal and purchasing intentions among consumers toward the purchase of environmental friendly products. Achievement Status: Achieved.

Supporting Findings: Overall, consumers' intention to buy green products was determined to be significantly influenced by concern towards the environment. The most environmentally concerned respondents had the highest level of preference for environmental friendly products.

Objective 3: To analyze how green product knowledge is related to consumers' intention and purchasing behaviour of green products.

Achievement Status: Achieved.

Supporting Findings: The results revealed that knowledge of green products is positively related to consumers' buying decisions. People with a deeper understanding of the products which are eco-friendly are more likely to opt for them when making purchasing decisions.

Major Findings

1. Consumers in Ranchi have good sustainability awareness.
2. Environmental concern positively affects green buying behaviour.
3. Green product knowledge increases purchase intention.
4. Government promotion of green products received the highest support.
5. Sustainability awareness and environmental concern strongly influence green buying behaviour.

Conclusion

The study concludes that sustainability awareness, environmental concern, and green product knowledge positively influence green consumer buying behaviour in Ranchi. Increasing awareness and knowledge can encourage eco-friendly purchasing.

Suggestions

1. Promote green products through awareness campaigns.
2. Provide clear environmental information on packaging.
3. Encourage sustainability education programs.
4. Improve the availability of eco-friendly products.

Scope for Future Research

Future studies can examine factors such as price, social influence, brand image, and environmental values, and compare results across different regions

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