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MILLENNIALS VS. GEN Z: A COMPARATIVE STUDY ON GREEN PURCHASING BEHAVIOUR

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Abstract

AIM: This study compares the green purchasing behavior of Millennial's and Gen Z, analyzing factors like environmental awareness, social responsibility, and marketing strategies. Data from 114 respondents in Sriperumbudur was collected through surveys and interviews using a mixed-methods approach. Statistical tests (Independent Samples T-Test & One-Way ANOVA) in SPSS showed no significant impact of age on green purchasing. Green marketing exposure had no major influence compared to traditional marketing. Millennials prioritize price and brand trust, while Gen Z follows social trends and digital marketing. Social media and influencer marketing play a key role in promoting eco-friendly products.

Keywords: *Millennials, Gen Z, Green Purchasing, Consumer Behaviour, Sustainability, Eco-friendly Products, Buying Patterns*

Introduction

Green purchasing behaviour is the activity of purchasing goods and services that are created in an ethical, sustainable, and ecologically friendly manner(Ramesh Kumar 2017). It entails making thoughtful purchasing decisions that put less of an impact on the environment first, like choosing energy-efficient gadgets, biodegradable packaging, and products from suppliers who are trustworthy. A number of factors, such as social responsibility, environmental awareness, and corporate sustainability initiatives, impact this behaviour. Despite having different methods and goals, millennials and Gen Z, two of the most ecologically conscious generations, have been instrumental in promoting green economic

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activity. Further influencing green buying habits are government regulations, media coverage, and public awareness campaigns. Customers are now more equipped to choose sustainable products because to the growth of eco-labelling and certification(Najafabadiha et al. 2025).

Owing to the significant effect it has on environmental sustainability and carbon footprint reduction, green purchasing practices remain important. Responsible consumer choices support a more sustainable economy as pollution, resource depletion, and climate change become pressing global issues(Chen et al. 2025). Customers urge companies to adopt sustainable production methods, such as employing renewable energy, reducing waste, and obtaining materials ethically, by purchasing eco-friendly items. The negative effects of damaging industrial processes including carbon emissions, plastic pollution, and deforestation are also lessened by green purchasing(Berden and Hung 2025). More broadly, sustainable consumption boosts economic expansion by generating demand for eco-friendly businesses, and ethical supply chains, and green technological advances. Pressuring businesses to be environmentally aware has also been greatly aided by consumer activism, especially on social media(Worakittikul, Saenwerm, and Naruetharadhol 2024).

Green purchasing plays a crucial role in promoting environmental sustainability and reducing carbon footprints. As concerns over pollution, resource depletion, and climate change continue to grow, responsible consumer choices contribute to a more sustainable economy. By opting for eco-friendly products, consumers encourage businesses to adopt greener practices, such as utilizing renewable energy, minimizing waste, and sourcing materials ethically. Additionally, sustainable purchasing helps mitigate the harmful impacts of industrial activities, including carbon emissions, plastic waste, and deforestation(Timpanaro and Cascone 2025). Moreover, supporting environmentally friendly brands, ethical supply chains, and green innovations fosters economic growth. Consumer activism, particularly through social media, has also been instrumental in pushing companies toward greater environmental responsibility.

Materials And Methods

This study compares and analyses the green purchasing patterns of Gen Z and Millennials using a mixed-methods methodology at Saveetha University's Saveetha College of Liberal

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Arts and Sciences. The purpose of the study is to investigate the variables affecting their sustainable consumption patterns, their awareness of sustainability, and the reasons behind their selection of ecologically friendly goods. 114 individuals living in Sriperumbudur, including Gen Z and Millennial customers, will make up the sample. We will employ both quantitative and qualitative data collection techniques to guarantee a thorough grasp of their purchase habits. Insights into various generational groups' preferences, difficulties, and decision-making processes with regard to green purchasing will be collected through a mixture of surveys and interviews.

Group 1 (Millennials and Gen Z Consumers) a structured questionnaire will be sent via Google Forms to 57 participants who frequently buy environmentally friendly products. Both closed-ended and Likert scale-based questions will be used to gauge participants' awareness, opinions, and preferences for green products. The questionnaire will undergo a pilot test for clarity before dissemination. Emails, messaging apps, and social media will be used to distribute the survey link to increase response rates. Data accuracy will be ensured through input validation and required fields. Focus groups will provide deeper insights into social and emotional factors influencing purchasing decisions.

Group 2 (Marketing Professionals and Business Owners) direct outreach, sustainability forums, and professional networks will be used to find 57 participants. Business owners, sustainability officers, and marketers experienced in promoting eco-friendly products will be included. Targeted questionnaires and semi-structured interviews will be used for data collection. Invitations will be sent via email, LinkedIn, and corporate platforms to ensure voluntary participation. Discussions will cover strategies for promoting sustainability, challenges in influencing consumers, and generational differences in green purchasing. Ethical principles like data security and confidentiality will be strictly maintained.

Statistical Analysis

The statistical analysis was conducted using **SPSS (IBM Version 27)** to study the green purchasing behavior of **Millennials and Gen Z**. The **Independent Samples T-Test** compared purchasing behavior between those exposed to **Green Marketing vs. Traditional Marketing**, showing **no significant difference** between the groups. The **One-Sample T-test**

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examined changes within the same group over time, revealing **minor variations but no major impact**. A **one-way ANOVA** analyzed factors like **age, income, and environmental awareness** regarding purchasing habits. The results showed **age had no significant effect (p = 0.086)**, but **older consumers tended to agree more with eco-friendly purchases**. These findings suggest that **green marketing influences both generations similarly**, but engagement strategies could be improved. Businesses should **tailor marketing approaches** based on **consumer awareness and values**. A **larger sample size and further studies** could provide **deeper insights** into sustainable consumer behavior.

Results

Test 1 : The Independent Samples T-Test results show no significant difference in purchasing behavior between the groups ($p > 0.05$). This means that exposure to Green Marketing vs. Traditional Marketing did not greatly impact consumer decisions.

Figure 1 : The chart shows that people who strongly agree with changing their buying habits after green marketing exposure are slightly older. However, the age difference across groups is small.

Test 2 : The ANOVA test shows no significant difference in age across different groups ($p = 0.086, > 0.05$), meaning age does not strongly influence purchasing behavior changes.

Figure 2 : This bar chart shows the mean age of respondents based on their agreement with actively looking for eco-friendly products while shopping. Younger individuals tend to agree more, while older respondents are more likely to strongly disagree**.**

Discussion

Test 1: Independent Sample T-Test

The Independent Sample T-Test results show no significant difference in consumer purchasing behavior between groups exposed to Green Marketing and Traditional Marketing ($p = .259$, $p = .274$). Since the p-values are above 0.05, the differences observed are likely due to chance. While these findings do not indicate a strong effect, further research with a larger sample may provide clearer insights.

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Test 2 : One-way Anova Test

The ANOVA test results show no statistically significant difference in age across different consumer groups (p = .086). Since the p-value is above 0.05, the variation in age does not significantly impact purchasing behavior. This suggests that age alone may not be a key factor in influencing eco-friendly product purchases. Further studies with a larger sample size and additional demographic variables may help identify more precise trends.

Limitation of my Study

There are a number of limitations to this study, which uses One-Way ANOVA and Independent Sample T-Tests to compare the green purchasing habits of Gen Z and Millennials. Other contributing factors such as money, education, and social impact are not taken into consideration by the Independent Sample T-Test, which aids in the analysis of differences in mean purchase behavior between the two generations. Similarly, the One-Way ANOVA does not prove causation; rather, it assesses differences in green buying behavior according to variables such as income or environmental consciousness. The study used self-reported data, which could cause respondents to exaggerate their sustainable behaviors due to social desirability bias. Furthermore, the study is unable to assess long-term behavioral consistency, which means it cannot predict whether or not customers will keep making environmentally beneficial purchases. . Additionally, the research does not provide comprehensive insights into marketing exposure, thereby rendering it challenging to determine whether variations in purchasing behavior are caused by advertising's influence or personal beliefs. Future studies should take a mixed-method approach, including observational studies, interviews, and surveys to better understand green buying habits.

Future Study

Future studies comparing the green buying habits of Gen Z and Millennials should improve their methodology by incorporating longitudinal studies that monitor real purchasing trends over time as opposed to depending just on self-reported intentions. In order to find significant differences within each generation, One-Way ANOVA should be used to investigate

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additional factors such as income levels, price sensitivity, and brand trust. Additionally, researchers should use Independent Sample T-Tests to compare reactions to different marketing techniques in order to investigate the effects of marketing strategies (e.g., influencer endorsements, eco-labeling, and social media campaigns) on customer behavior. The influence of peers is another important topic for further study, since Millennials may be more influenced by brand loyalty, whilst Gen Z tends to rely more on social media when making purchases. To find out if generational variations in green shopping behavior are regional or global, the study should be expanded to incorporate cross-cultural comparisons.

Tests And Figures :

TEST 1 : The Independent Sample T-Test

The table results show that the p-values (0.259 and 0.274) are greater than 0.05, indicating no significant difference between the groups. This means that the variation in green purchasing behavior between the compared groups is not statistically significant.

	F	Sig.	t	df	Sig.(2-tailed)
Equal variances assumed	1.026	.314	-1.136	80	.259
Equal variances not assumed			-1.104	57.749	.274

FIGURE 1

The bar chart shows the mean age of respondents based on their agreement with the impact of green marketing on purchasing habits. The mean age is similar across categories, with a slight increase for those who "Strongly Agree." Error bars indicate some variability, especially in the "Strongly Agree" group.

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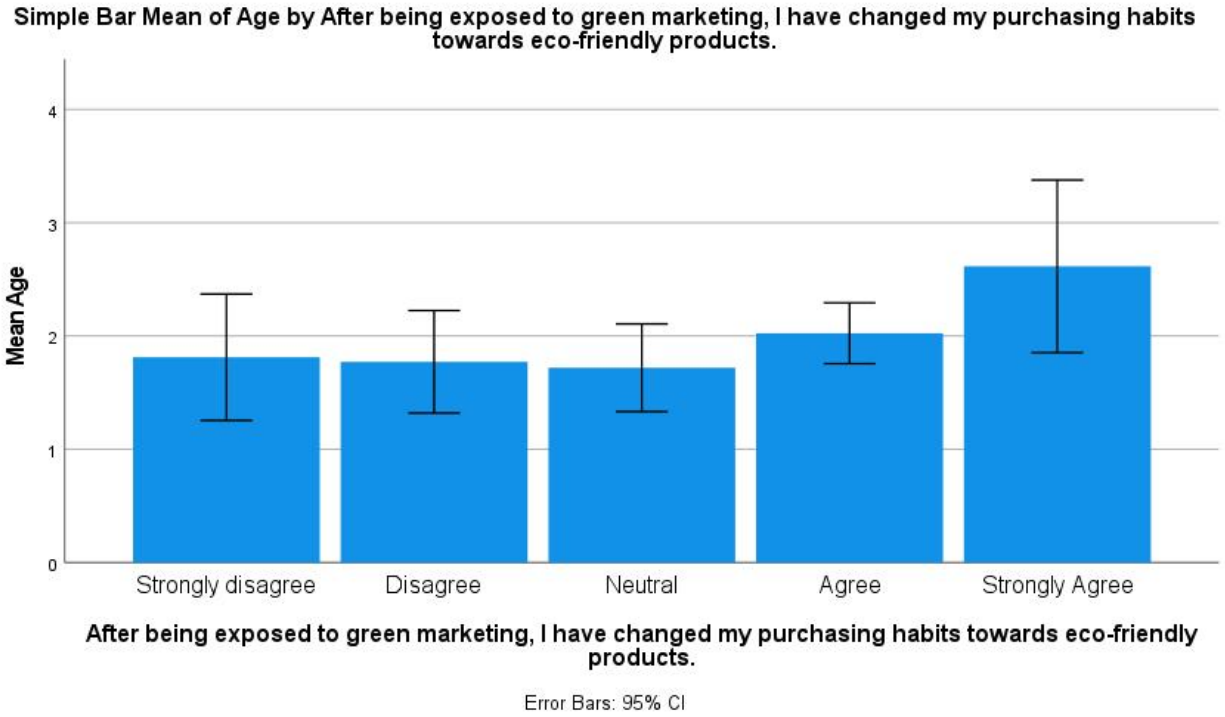

TEST 2 : One-way Anova

The ANOVA test results show a p-value of 0.086, which is greater than 0.05. This means there is no statistically significant difference in age across the different groups. Therefore, age does not have a significant impact on the measured variable.

ANOVA

Age

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.059	4	2.015	2.096	.086
Within Groups	107.633	112	.961		

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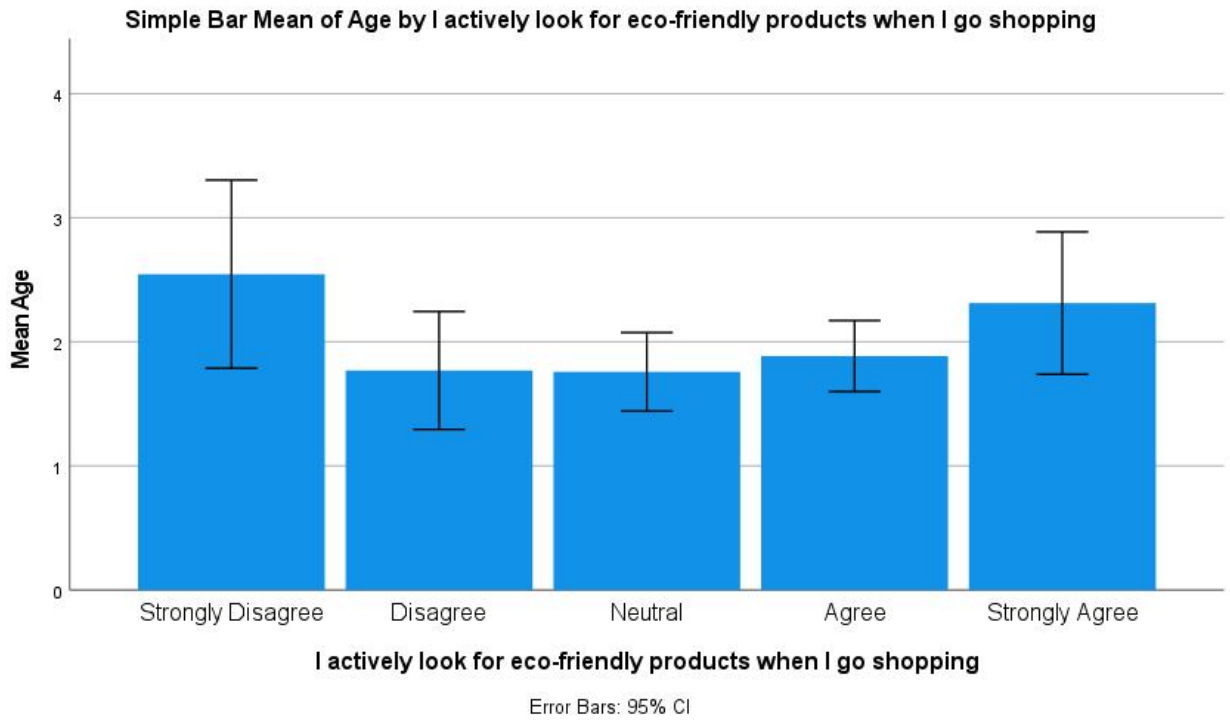
Total	115.692	116			

FIGURE 2 :

The bar chart shows the mean age of respondents based on their agreement with actively looking for eco-friendly products. The mean age is slightly higher for those who "Strongly Disagree" and "Strongly Agree." Error bars indicate some variability across groups.



Declaration :

Conflict of interests

No conflict of interest in this manuscript

Authors Contributions

Author Princy R[1] was associated with the data collection, data analysis, and manuscript writing.

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Author Dr.S.Venkatesan[2] Associate Professor was involved in the manuscript's conceptualization, data validation, and critical review.

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Conclusion

Independent Sample T-Tests and One-Way ANOVA were used in this study to examine how Millennials and Gen Z differed in their green buying habits. According to the research, Millennials may have greater purchasing power than Gen Z, but they place a higher value on price and brand trust when making eco-friendly product purchases. Gen Z is more influenced by social trends and digital marketing. Determining conclusive findings is challenging due to the study's limitations, which include the absence of real-world purchase tracking and marketing exposure research. Long-term behavioral patterns, outside influences, and the efficacy of various marketing tactics should be the main topics of future research. Companies should adjust their sustainability marketing strategies appropriately, concentrating on brand reputation and affordability for Millennials to effectively influence sustainable purchase decisions while utilizing social media and influencer marketing for Gen Z.

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