Research note
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AWARENESS AND USE OF ECO-FRIENDLY ELECTRONIC GADGETS- AN ANALYSIS

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Eco-friendly products, often referred to as “green” or “environment-friendly,” are characterized by their biodegradability, low carbon footprint and minimal adverse effects on both people and the planet.The prevalent presence of electronics has become a cornerstone of modern life, with a constant influx of new gadgets designed to enhance convenience and enjoyment. However, this technological boom comes with a significant environmental cost. The manufacturing and disposal of electronic devices pose substantial risks, primarily due to the hazardous materials they contain. This not only impacts the environment but also presents a serious threat to human health. In response to these challenges, eco-friendly electronic gadgets are gaining traction in the global effort to combat climate change and reduce greenhouse gas emissions (Brough,2016). Governments worldwide are supporting this transition by promoting renewable energy sources like solar and wind power, pricing carbon emissions and implementing policies to lower overall greenhouse gas output (McNeely, 2021). This research aims to assess the level of awareness and usage of eco-friendly electronic gadgets among consumers. Specifically, this study seeks to determine the extent of respondents’ awareness regarding these gadgets and identify the key barriers preventing their wider adoption.

A descriptive research design was employed for this study, which was conducted during 2024 in Vadodara, Gujarat. The objective was to assess the awareness and usage of a specific set of eco-friendly electronic gadgets. The research population was comprised of 722 respondents (323 male and 397 female) who were selected using a cluster sampling technique. Data was collected via a structured questionnaire that included questions on a range of eco-friendly electronic gadgets.

To analyze the relationship between awareness and usage with personal variables (age, academic background, occupation, and monthly income), relational statistics were applied. Specifically, ANOVA was used to determine if there were statistically significant differences in knowledge and usage among different personal variable groups. An independent samples t-test was also conducted to compare the differences in knowledge and usage between male and female respondents.Further, categorization of respondents into Low, Moderate and High was based on class interval range.

Profile of Respondents

The demographic analysis of the 722 respondents revealed a diverse but distinct profile. The average age was 46 years. A closer

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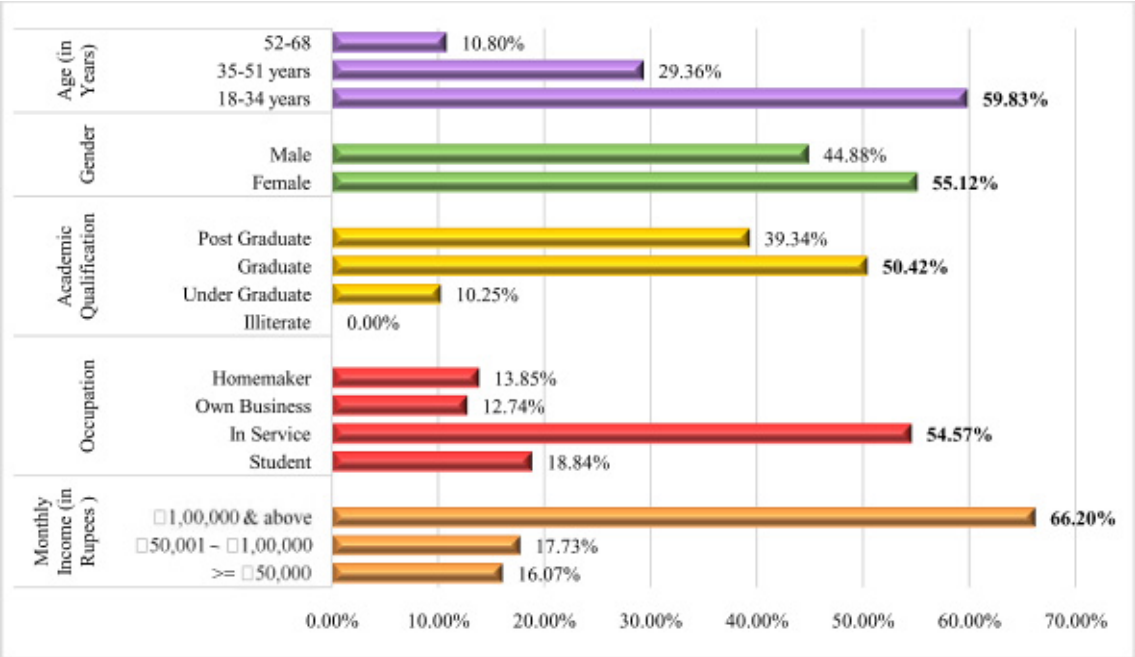

Fig.1. Background Information of the respondents

examination of the generational distribution showed a strong representation of older generations: Baby Boomers constituted the largest group at 31%, followed by Millennials at 28% and Generation X at 27%. This demographic breakdown suggests a prevalence of older consumers, who may possess greater financial stability to invest in sustainable products and have a longer-term perspective on environmental issues. However, an apparent contradiction was observed in the data, as 59.83% of the respondents were in the 18-34 age group. In the gender section, females accounted for 55.12% of the respondents. In terms of educational background, half of the respondents (50.42%) were graduates. The majority of respondents were professionally employed, with 54.57% engaged in service-oriented occupations. Moreover, more than three - fifth (66.20 per cent) of the respondents had their family monthly income Rs.1,00,001 & above.

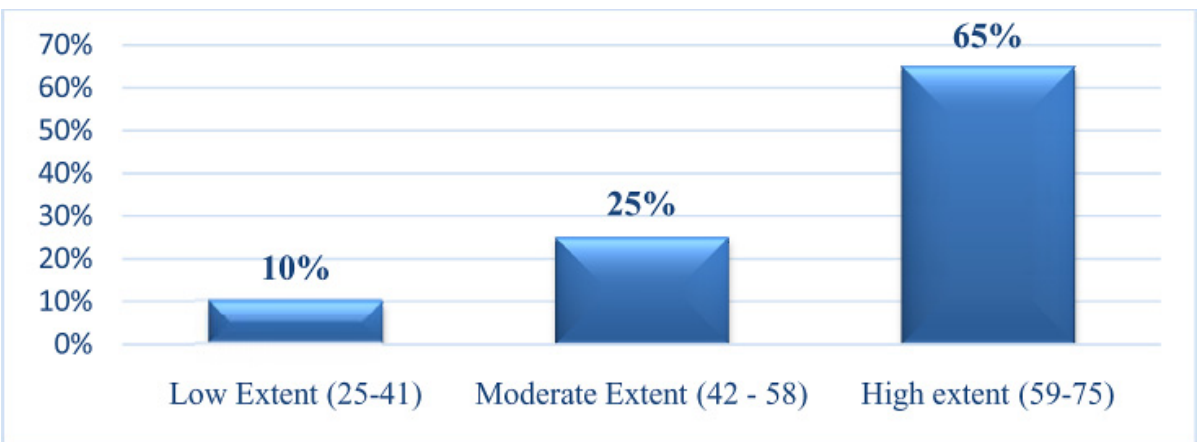

Fig. 2: Extent of Awareness of the Respondents regarding Eco-Friendly Electronic Gadgets

Extent of Awareness of the Respondents regarding Eco-Friendly Electronic Gadgets

The data in the present study revealed that 65 per cent of the respondents had high extent of awareness regarding Eco-Friendly Electronic Gadgets, followed by 25 per cent of the respondents with Moderate extent of awareness and 10 per cent of respondents had Low extent of awareness regarding Eco-Friendly Electronic Gadgets.

Extent of Usage of Eco-Friendly Electronic Gadgets

The results of the current study also showed that 10.80 percent of respondents exclusively used eco-friendly electronic gadgets to a high level, while 16.62 per cent of respondents used them to a moderate amount. The vast majority of respondents (72.57 per cent) reported using eco-friendly electronic gadgets to low extent. This demonstrates that even while individuals are aware of the product, there are still certain circumstances that contribute to its extremely low utilization. Finding the causes is necessary in order to provide remedies that will encourage more people to use these items.

According to Table 1, the F-value computation revealed a significant variation (α=0.01) in the respondents' level of awareness about eco-friendly electronic gadgets with their age, academic background, accupation and monthly income, as well as a significant variation (α=0.05) in the respondents' level of awareness regarding eco-friendly electronic gadgets with regard to their occupation. Hence, it can be inferred that Extent of Awareness of the respondents regarding Eco-Friendly Electronic Gadgets varied with their Age, Gender, Academic Background, Occupation and Monthly Income.

Examining gender disparities offers a distinctive viewpoint for elucidating the variations in green consumption patterns among individuals. Presently, majority of studies have examined green consumption from the perspectives of consumer attitude, psychological ownership, moral identity and other relevant aspects (Wang, 2019). Based on the statistical analysis, significant differences in awareness of eco-friendly electronic gadgets were observed across several demographic variables. In category of age group, 52 to 68 years age group showed a significant difference in awareness (α=0.01 *et al*). In terms of academic qualification, postgraduates demonstrated significantly different levels of awareness compared to both undergraduates and graduates (α=0.01). When examining occupation, homemakers' awareness levels were found to be significantly different from those in other occupations (α=0.05). Furthermore, respondents with a monthly income of Rs. 50,000 or less exhibited significantly different awareness levels than those with incomes of Rs. 50,001 to Rs. 1,00,000 and Rs.1,00,000 and above

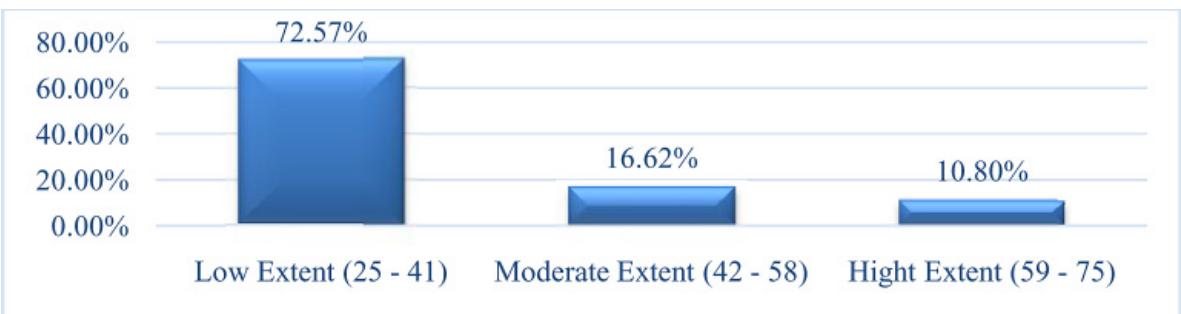

Fig. 3: Extent of Usage of respondents regarding Eco-Friendly Electronic Gadgets

Table 1. Analysis of variance showing variation in the extent of Awareness of the Respondents regarding Eco-Friendly Electronic Gadgets with their personal variables

Selected variables	df	Sum of squares	Mean of squares	F-value	Level of significance
Extent of Awareness of the respondents regarding Eco-Friendly Electronic Gadgets					
Age (inYears)					
Between groups	2	726	363	4.79	0.01
Within groups	719	54464.29	75.75		
Academic Qualification					
Between groups	2	3414.82	1707.41	23.71	0.01
Within groups	719	51775.46	72.01		
Occupation					
Betweengroups	3	913.88	304.62	4.02	0.05
Within groups	718	54276.41	75.59		
Monthly Income(inRs.)					
Between groups	2	6392.51	3196.25	47.09	0.01
Within groups	719	48797.77	67.86		

(α=0.01). These findings suggest that personal factors play a crucial role in shaping an individual's perception of eco-friendly technology.

According to Baker and Ozaki (2008), gender cannot be ignored because it was a significant factor in the psychological differences that affected green consumption. Additionally, gender equality and the various social stigmas that men and women face have a significant impact on their green consumption and other pro-environmental behavior. According to the t-value calculation, female respondents' knowledge of eco-friendly electronic gadgets differed from that of male respondents (Table 2).

Analysis of Variance (ANOVA) was computed to test the variation of the extent of usage of Respondents towards Eco-Friendly Electrical Gadgets varies with their personal Variable (Age,Academic Background, Occupation and Monthly Income). The

Table 2. t- test showing variation in the extent of awareness of the respondents regarding Eco-Friendly Electronic Gadgets with their personal variables (Gender).

Selected Variables	Mean	df	Level of Significance
Gender			
Male	37.16	700	0.01
Female	38.29		

computation of F-value (Table 4) showed significant variation (α=0.01) in extent of Extent of usage of the respondents regarding Eco-Friendly Electronic Gadgets with the age, academic background and monthly income and (α=0.05) in extent of awareness of the respondents regarding Eco-Friendly Electronic Gadgets with the occupation. Hence, according to table 4, it can be inferred that extent of usage of the respondents regarding Eco-Friendly Electronic Gadgets varied with their age, academic background, occupation and monthly income.

According to Tischner and Hora (2019), the requirement for environmentally friendly electrical device design stems from consumer demand and may be met by investigating eco-friendly alternatives.Significant differences in the usage of eco-friendly electronic gadgets were identified across various demographic categories (Table 3). The analysis revealed that respondents between the ages of 52 and 68 years showed a significant difference in usage compared to other age groups (α=0.01). With regard to academic qualification, undergraduates demonstrated a significantly different extent of usage than both postgraduates and graduates (α=0.01). For occupation, homemakers' usage levels were found to be significantly different from those in other occupations (α=0.05). Furthermore, as stated by Hicks-Webster(2021), at the lowest incomes, there is the basic challenge of affording things. Because people think buying green costs more, they are less likely to splurge for it on a tight budget. Respondents with a monthly income of Rs. 50,000 or less exhibited significantly different usage patterns than those with incomes of Rs. 50,001 to Rs.1,00,000 and Rs.1,00,000 and above (α=0.01). This suggests that personal factors, including age, education, occupation, and

Table 3. Analysis of variance showing variation in the extent of Usage of Eco-Friendly Electronic Gadgets with their personal variables.

Selected variables	df	Sum of squares	Mean of squares	F-value	Level of significance
Extent of Usage of the respondents regarding Eco-Friendly Electronic Gadgets					
Age (inYear)					
Between groups	2	3902.66	1951.33	11.38	0.01
Within groups	719	123246.60	171.41		
Academic Qualification					
Between groups	2	5564.73	2782.36	16.45	0.01
Within groups	719	121584.54	169.10		
Occupation					
Between groups	3	1779.78	393.26	3.39	0.05
Within groups	718	125639.49	174.60		
Monthly Income(inRs.)					
Between groups	2	12023.09	6011.54	37.54	0.01
Within groups	719	115126.18	160.11		

Table 4. t-test showing difference in the extent of Usage of Eco-Friendly Electronic Gadgets with their Gender.

Selected Variables	Mean	df	Level of Significance
Gender			
Male	37.97	699	0.01
Female	38.79		

income, are all critical determinants of eco-friendly gadget adoption.

Green consumption practices are strongly associated with femininity and are embodied by feminine characteristics. Competence and ambition, on the other hand, are less associated with male traits like energy conservation and carbon consumption reduction (Brough *et al.,* 2016). According to Nanggong and Bandu (2018), Males possess less Active attribute towards green consuming behavior as compared to women. The computed t-value revealed that the extent of usage of eco-friendly electronic gadgets differed among male and female (Table 4). This gender discrepancy highlights a gap between awareness and adoption, indicating underlying barriers to usage. Statistical analysis showed that awareness of respondents regarding eco-friendly electronics Gadgets differed significantly with age, education, income (α=0.05), and occupation (α=0.01). These results confirm that demographic factors play important role in both awareness and adoption of eco-friendly electronics. The study underscores the urgent need for targeted promotional strategies to encourage wider adoption of eco-friendly electronics gadgets.

REFERENCES

Brough, A., James, W., Jingjing, M., Isaac, M. and Gal, D. 2016. Is Eco-Friendly Unmanly? The Green-Feminine Stereotype and Its Effect on Sustainable Consumption. Journal of Consumer Research, 43. ucw044. 10.1093/jcr/ucw044.

Hicks-Webster, C. 2021. To sell green products, target the middle class. Network for Business Sustainability (NBS). https://nbs.net/to-sell-green-products-target-the-middle-class/

McNeely, J. A. 2021. Nature and COVID-19: The pandemic, the environment, and the way ahead. Ambio, 50(4), 767–781. https://doi.org/10.1007/s13280-020-01447-0

Nanggong, A., Bandu R. 2018. Gender differences of sustainable consumer behavior in technology adoption: evidence from Indonesia. J. Int. Conf. Proc, 1 1–10. 10.3253/jicp.v1i2.267

Tischner, U. and Hora, M. 2019. Sustainable Electronic Product Design. In Waste Electrical and Electronic Equipment (WEEE) Handbook, edited by Vannessa Goodship, AbStevels, Jaco Huisman, 443 – 482. doi:10.1016/B978-0-08-102158-3.00017-3.

Wang, Ahmad, F., Abdullah, Z. and Magsi, N. 2019. TrZust and Consumers' Purchase Intention in a Social Commerce Platform: A Meta-Analytic Approach. SAGE Open, 12. 1-15. 10.1177/215824402210912

Chaudhari, S. and Patel, S. 2025. Awareness and use of Eco-friendly Electronic Gadgets : an analysis. The Journal of Research ANGRAU, 53(3): 132-137