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Knowledge, attitude and practices of rural consumers towards energy saving appliances: An exploratory study

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Abstract

Organizations, corporations, and individuals must be responsible and aware in their daily activity to avoid harming the environment in response to the public's growing concern about the environment. The majority of environmental issues are brought on by how people live and continually harm the environment. The purpose of the study was to evaluate rural customers' knowledge, attitudes, and actions regarding eco-friendly cosmetics. The study was carried out using an exploratory research design. 300 educated consumers from the rural Dharwad and Belagavi district provided the data, which was gathered. Frequency, percentage, mean, and 't' test were used to examine the data. The findings showed that the majority of consumers were between the ages of 22 and 29. More than half of the study's participants were recent grads. In terms of occupation, a third of the customers chosen for the study were students, followed by consumers who were self-employed and without a job. The majority of consumers had monthly household incomes between 7,380 and 51,780 rupees. The majority of the consumers that were chosen belonged to the upper middle socioeconomic status. Female consumers in rural area had better knowledge than male consumers about energy conservation. The highly significant difference was observed among the male and female respondents about the attitude towards energy saving appliances. In terms of energy conservation, men consumers outperformed female consumers. Government, educational institutions, and non-profit organizations should take up green initiatives such producer subsidies, campaigns on green products, supporting green marketing, and exhibitions on green products for the sake of the populace's health. The idea of energy conservation should be promoted beginning in the classroom. Advertisements for energy-saving equipment should be encouraged in public spaces to raise customer awareness.

Keywords: Environment, knowledge, attitude, practices, exploratory research, consumers, energy saving, appliances

Introduction

Environmental pollution is one of the most serious problems experienced by humanity and other life-forms on the earth today. According to air quality report, 2019 India was ranked as the fifth most environmentally hazardous country in the world, Bangladesh was found to be the worst on environmental indicators and Bahamas was the best country in the world. Ghaziabad (India) was the most polluted city in the world and Indore is the cleanest city in India, Mysore (Karnataka) was ranked fifth cleanest city in India.

Due to excessive use of natural resources and global consumption as a result of the recent rapid economic growth (Chen & Chai, 2010) [2], the environment has been deteriorating. With the advancement of technology, there has been an increase in industrial activities that have had an impact on the environment both directly and indirectly. The environment has been heavily abused, which has led to things like ozone layer depletion, pollution, climate change, global warming, and environmental exploitation. Businesses have selected environmentally friendly methods because these issues have prompted worries about preventing additional environmental degradation. One of the first steps done to address this environmental issue is the production and selling of ecologically friendly products.

The market now offers a wide range of products that are safe for the environment, and consumers' purchasing decisions are influenced by their beliefs and level of awareness regarding their health and the environment. If consumers choose a green product, it not only has immediate benefits for them personally but also has numerous long-term environmental benefits.

Jasson *et al.* (2010)^[4] defined green product as an item that is produced in an environmentally conscious manner. It has minimum negative effect on the environment. These products or product packaging was made from recycled materials, preserve natural resources and manufactured locally. Green consumer are those consumers who buy eco friendly or green products not because of it is becoming fashionable, but because they care about environmental issues and search for evidence in the labels that the product is environmental friendly or eco friendly (Awad, 2011)^[11].

Energy saving appliances: these are the electrical devices or appliances that perform their task and use less electricity than lower-efficient devices. The energy saving appliances include solar lights, solar water heater, CFL tubes, solar panels, energy star rated laptops, refrigerator, television, washing machine, mixer, battery operated vehicles, cycle, electric vehicles etc.

It is necessary to move to more sustainable consumption patterns and it is crucial to increase the environmental awareness, knowledge, attitude, practices and consciousness of people. Individuals, as consumers, will reduce the environmental effect and make a positive difference by their purchase decisions. The belief is that the pro-environmental interest of the consumer was one of the determinants of their "green buying" actions, *i.e.* the purchase and use of environmentally friendly goods. Consumers can reduce their impact on environment and make a difference through their purchasing decisions. (Mainieri *et al.*, 1997)^[6].

Businesses that use "eco-friendly" or "environmental friendly" items are benefiting from the growing number of consumers who prefer and are prepared to purchase eco-friendly products. One can only hope that once we resolve to safeguard our environment and thereby ensure our own safety in the future, change will be the only thing that remains constant. Let's start using eco-friendly items right away to make the dream of a beautiful environment a reality.

1. To determine how well-informed consumers are on energy-saving equipment.
2. To examine user attitude towards energy-saving appliances
3. To understand the energy-saving techniques used by consumers

Review of literature

Mahapatra (2013)^[5] found that 80.00 percent of the respondents associated green with the different terms as reducing pollution, recycling waste and energy saving. 60.00 percent of the consumers associated with reduction of wastage and promotion of conservation while only 25.00 percent consumers opined that green stands for corporate social responsibility. Consumers' perception influenced the decision making process and buying behaviour of each individual. 80.00 percent of the respondents were willing to pay premium price for green products like personal hygiene, food, electronics and consumer durables.

Majumdar (2015)^[7] found that environmental brands, brand name, product type, green attributes of the products, green technology and energy savings were the factors responsible for identification of the green products by the respondents.

Salini and Thomas (2017)^[8] reported that majority of the respondents were aware about ecolabels on electronic appliances. Respondents showed strongly agreeable opinion towards eco-friendly factors while purchasing electronic

home appliances. Higher level of income enriched the eco-awareness of the respondents while making eco-friendly purchasing.

Jabeen *et al.* (2018)^[3] assessed majority of the students were well aware about the situation of energy crisis in Pakistan, understanding of energy saving methods would help to manage the situation of energy crisis.

Methodology

The study was conducted between 2018 and 2021. Structured interview questionnaires were used to gather the data. For the study, a total of 300 rural customers from the Dharwad and Belagavi districts were chosen. The results of the demographic variables and consumer awareness, knowledge, attitude, and practices about energy-saving appliances were interpreted using frequency, percentage, and mean scores.

Results and Discussion

Demographic profile and socio economic status of the selected urban and rural consumers

Table 1 depicts the demographic profile of the selected urban and rural respondents like age, education, occupation and monthly income of the family.

Age

Three categories of ages were assigned to the respondents. Less than 22 years (27.33%) and more than 29 years (23.33%) were the two age groups that made up the majority of consumers (48.33%). The majority of male consumers (41.33%) were in the 22–29 age range, followed by the over 29 age range (34.67%) and the under 22 age range (24.00%). More over half of the female consumers in rural areas (55.33%) were in the 22–29 age range, followed by those under 22 (30.67%) and those over 29 (14.00%).

Education

Only 2.67 percent of consumers had degrees beyond the 12th grade, while 54.00 percent of consumers had completed their undergraduate degrees. Male consumers who had completed their education (52.00%) were followed by those who had completed their 12th grade education (43.33%) and postgraduates (4.67%). The majority of female consumers (64.66%) had completed their 12th grade education, followed by graduates (34.67%), and only 0.67 percent had completed their post-secondary education.

Occupation

In addition to students (27.67%), self-employed (16.67%), and private employees (16.00%), just 7% of the chosen consumers (72.67%) were employed by the government. The self-employed (22.00%), employed in the private sector (18.67%), the jobless (13.33%), and just 7.0% of government employees made up more than one third (38.67%) of the male customers. In addition to students (16.67%), private employees (13.33%), self-employed (11.33%), and government employees (6.67%), more than half of female consumers (52.00%) were unemployed.

Monthly family income

Based on the average income of the chosen respondents, the monthly family income from all sources was compiled and divided into three groups, low, medium, and high, and is shown in Table 1.

Only 0.33 percent of customers in rural areas had low family income, while 91.33% of consumers had a medium family income of between Rs. 7,380 and Rs. 51,780. Of those, 8.33% had a high income of over Rs. 51,780. Only 6.66% of the

male customers had high incomes of more than Rs. 51,780 and more than ninety percent (93.33%) had medium family incomes of Rs. 7,380 to Rs. 51,780. In rural areas, there were no low-income families among the male consumers.

Table 1: Demographic profile of the selected urban and rural consumers N = 300

Variables	Classification	Male	Female	Total
Age (yrs)	<22	36 (24.00)	46 (30.67)	82 (27.33)
	22-29	62 (41.33)	83 (55.33)	145 (48.33)
	>29	52 (34.67)	21 (14.00)	73 (23.33)
Education	Upto 12 th std	65 (43.33)	97 (64.66)	162 (54.00)
	Graduate	78 (52.00)	52 (34.67)	130 (43.33)
	Post Graduate	7 (4.67)	1 (0.67)	8 (2.67)
Occupation	Student	58 (38.67)	25 (16.67)	83 (27.67)
	Unemployed	20 (13.33)	78 (52.00)	98 (32.67)
	Self employed	33 (22.00)	17 (11.33)	50 (16.67)
	Private sector	28 (18.67)	20 (13.33)	48 (16.00)
	Government sector	11 (7.33)	10 (6.67)	21 (7.00)
Monthly Family Income (₹)	Low (<7380)	-	1 (0.66)	1 (0.33)
	Medium (7380-51780)	140 (93.33)	134 (89.33)	274 (91.33)
	High (>51780)	10 (6.66)	15 (10.00)	25 (8.33)

Socio economic status of the selected consumers

According to the categories of socioeconomic status reflected in Table 5 of Aggarwal's (2005) scale, Table 2 displays the distribution of consumers. Only 3.0% of the respondents were from the high socioeconomic category, whereas 50% of the sampled consumers (or 50.33%) were from the upper middle socioeconomic category, followed by 46.33% from the lower middle socioeconomic category.

Table 2: Socio economic status of the selected urban and rural consumers N=300

Classification	Respondents (%)
Upper High ≥76	0
High 61-75	10 (3.33)
Upper middle 46-60	151 (50.33)
Lower middle 31-45	139 (46.33)
Poor 16-30	0
Very poor ≤15	0

Knowledge about energy saving among the consumers

The self developed knowledge scale was used to assess the knowledge of the consumers towards energy saving appliances. Irrespective of the gender, the selected in rural area consumers had higher knowledge energy saving appliances (13.16), had female consumers (13.67) had better knowledge about energy saving appliances than male consumers (12.64) about energy saving appliances as they were more concerned about the environmental pollution and energy crisis.

Table 3: Comparison of average scores of knowledge about green products among urban and rural consumers N=300

Products	Male	Female	Total
Energy saving appliances	12.64	13.67	13.16

Attitude of the consumers towards energy saving Appliances: The term "attitude" refers to the respondents' beliefs, opinions, and persuasion. For each of the five study-selected categories, the consumer attitude toward green products was evaluated using a five-point Likert scale.

The attitude of the consumers towards energy saving appliance was presented in the Table 4. Rural consumers scored better on attitude (16.93%). The gender wise comparison of attitude towards energy saving appliances showed that in rural area female consumers had favourable attitude (17.87) compared to male consumers (15.98). The highly significant difference was observed among the male and female respondents about the attitude at 0.01 level towards energy saving appliances the saving of energy can help to improve their quality of life as they think that the extra amount of money can be saved from the energy bill.

Table 4: Mean scores of attitude of the rural consumers towards energy saving appliances N=300

	Statements	Male	Female	Total
1.	LED bulbs are the most energy efficient bulb in the market	2.95	3.43	3.19
2.	Electrical appliances with energy stars are of expected standard quality.	3.28	3.61	3.44
3.	Making choices in the energy efficiency in the home is complex decision.	2.99	3.36	3.18
4.	Energy saving effort can improve the quality of environment.	3.45	3.93	3.69
5.	Appliances with high energy rating are expensive	3.31	3.54	3.43
	Total	15.98	17.87	16.93
	't' value	3.90**		

Practices of the consumers about energy conservation

The practices that customers have adopted to conserve energy are shown in Table 5. The Table revealed that rural customers had more effective practices (15.10) for energy conservation. In comparison to rural female customers (15.05), men consumers (15.16) practiced energy conservation better. Because consumers care about the environment and are aware of the limited resources available, they always use energy-saving bulbs and appliances, turn off the lights and appliances when not in use, take the bus or train when traveling long distances, and occasionally use solar water heaters and solar lights to reduce their electricity costs.

Table 5: Mean scores of the practices of the consumers about energy conservation N=300

	Statements	Male	Female	Total
1.	I turn on lights and appliances that aren't in use.	2.55	2.61	2.58
2.	When I travel to distant locations, I take public transit.	2.79	2.73	2.76
3.	I ride my bicycle or walk to nearby locations.	2.57	2.55	2.56
4.	I make use of energy efficient equipment.	2.81	2.71	2.76
5.	I utilize solar-powered lighting and a water heater.	2.25	2.25	2.25
6.	I make fewer decisions that are energy-efficient.	2.19	2.20	2.19
	Total	15.16	15.05	15.10

Conclusion

In rural areas, female consumers knew more about energy conservation than male consumers. Regarding respondents' attitudes about energy-saving appliances, there was a significantly significant difference between the responses from men and women. In terms of energy conservation, men consumers outperformed female consumers. Government, educational institutions, and non-profit organizations should implement green initiatives such producer subsidies, campaigns on green products, supporting green marketing, and exhibitions on green products for the sake of the public's health. Promotion of energy saving concept should start from school level itself. Energy saving appliances advertisements should be encouraged at public places to create awareness among consumers.

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