AN EMPIRICAL STUDY ON PRO-ENVIRONMENTAL BEHAVIOR TOWARDS SELECTED GREEN HOUSEHOLD APPLIANCES FOR SUSTAINABLE CONSUMPTION: SPECIAL REFERENCE TO GUJARAT, INDIA

ABSTRACT

Introduction

The idea of sustainability has received much attention recently, and people are gradually realising it's essential to minimize its negative impact on the environment. To address the negative impacts of a careless and casual approach to the environment, governments, environmentalists, social activists, and scholars began promoting the necessity for pro-environmental behaviour and remedial action. The ecosystem and energy reserves have suffered due to increasing energy usage, increased ecological footprint, and rising carbon emissions. It has raised the puzzling question of whether or not we are leaving behind a world that can sustain and support life for future generations, even as we consider leaving behind prosperity for the next generation. Numerous causes have contributed to our vulnerable position. Lack of understanding, easy access to non-renewable resources, and a weak regulatory framework contributed to people's disregard for the environment.

This research study delves into the crucial relationship between pro-environmental behaviour and consumer purchasing decisions, particularly focusing on green home equipment within Indian households. As environmental awareness grows, understanding the factors that drive sustainable consumption has become increasingly important. The study's primary objective is to analyse how pro-environmental behaviour influences consumer decisions when purchasing eco-friendly household appliances. This aspect of the research aims to explore how Indian households are adopting and using selected green household appliances such as energy-efficient refrigerators, air conditioners, washing machines, and Televisions. The study also explores the frequency's and duration of appliance use. The current study also tries to determine the level of recognition of eco-labels used in selected green household appliances. As, Eco-labels often serve as a quick reference for consumers to identify products that meet certain environmental standards. If consumers recognize and trust these labels, they are more likely to choose eco-friendly products over conventional ones. The researcher examines how this awareness influences consumers' perceptions of product quality and their intention to

purchase. The research explores whether awareness and brand image lead consumers to purchase of Green Household Appliances.

The study further explores the relationship between green marketing tools (Green Perceived Product, Green Perceived Price, Green Perceived Place and Green Perceived Promotion) and green purchase behaviour. The study also covers influence of various factors that affect consumers' green purchase behaviour. The researcher has selected these eight factors – Consumers' Awareness, Consumers' Attitude, Consumers' Readiness, Moral norms, Subjective Social Norms, Warm Glow and Perceived barriers. And lastly, the research delves into how demographic factors – Age, Gender, Education and Income interact to influence sustainable consumption.

Objectives of the Study

The main goal of this study, was to examine how pro-environmental behaviour could influence customer purchasing decisions for particular green home equipment. In addition to the primary goal, the research aims to achieve the following secondary goals:

1. To investigate the relationship between pro-environment behaviour and energy saving.
2. To study the behaviour pattern of selected green household appliances among Indian households.
3. To study consumers' overall level of awareness, attitude and influence/readiness towards green purchase behaviour.
4. To determine the level of recognition of eco-labels used in selected green household appliances.
5. To determine the factors and their impact on consumers' green purchase behaviour.
6. To determine the impact of consumers' level of green product/brand awareness and green product/brand image on the perceived quality and purchase intention towards selected green household appliances.
7. To determine the relationship between green marketing tools and green purchase behaviour.
8. To determine the relationship between consumer demographics and sustainable consumption behaviour.

To achieve the above mentioned hypothesis, researcher has proposed eleven hypotheses for which were tested and conclusions were drawn based on the test results.

Research Methodology

Many scholars have contributed to the empirical works of green marketing and its importance. But, after conducting a complete review of the literature, the researcher observed that only limited empirical studies exists that focused on analysing customer purchasing behaviour towards energy-efficient home appliances. No specific study has been conducted in particular area of selected green household appliances included in this study. This is a critical topic that has yet to be investigated. The present study incorporates the relationship between two main variables – Pro Environmental behaviour with the extended Theory of Planned Behaviour and Sustainable Consumption. The conceptual framework was created using the extended TPB approach and hypotheses are framed. To achieve the above-mentioned objectives, a set of 11 hypotheses were formulated, which were tested using statistical tools like - Descriptive Statistics, Frequency counts, factor analysis, correlation, regression, Normality of test and Analysis of Variance (ANOVA).

The study attempts to better understand customer behaviour in regard to green household appliances. Consumers from Ahmedabad, Gandhinagar, and Vadodara were chosen. The proposed conceptual model of this research has incorporated independent and dependent variables. Consumer Psychographics, Selected Influencing Factors, Green Marketing tools and Consumer Demographics are included in Independent variables. Along with that under dependent variables, Green Purchase behaviour is used.

Since the study focuses on identifying and analysing factors influencing consumer behaviour towards the purchase of green household appliances, a descriptive research design has been used here. Primary data required to achieve the research objectives listed earlier was collected through Non-Disguised Close-ended Questionnaire. A structured questionnaire containing a scale chosen from available literature was developed to assess the awareness amongst consumers about green household appliances by using a five point Likert scale. But, before that the questionnaire was pre-tested through a pilot study. Based on the outcomes of the pilot study, necessary changes were made before administering the final questionnaire. To determine the

sample size formula was used as proposed by Naresh K. Malhotra (2007). The total sample size of respondents for the current study is 1,050.

When the survey has several Likert Scale questions, measuring the Cronbach is considered to be the most helpful. The Cronbach's Alpha values for all the constructs were above the threshold value of 0.70 and also they were below 0.90, according to Nunnally (1978), the assessment criteria for internal consistency reliability was satisfied.

Major Findings

- **Findings related to Pro-Environmental Behaviour and Energy Savings**

To understand the relationship between Pro-Environmental Behaviour and Energy Savings, initially, respondents were asked about their level of awareness about environment. 90% of the respondents are very much aware about electricity saving in the home are aware about the ill effects of all kinds of Pollution and are aware about the ill effects of Global Warming. Positive attitudes towards the environment can increase resilience and flexibility to environmental change. Majority of the respondents believed the importance of environmental protection, regarding air pollution, regarding household energy consumption, savings of natural resources and preference for energy efficient appliances. Correlation analysis was also performed for this dataset, which revealed that there is a positive relationship between pro-environmental behaviour and energy savings.

- **Findings in relation to behaviour pattern of GHA**

To analyse the purchase behaviour, respondents were asked whether they prefer buying star rated products. It was observed that 97.21% of the consumers choose buying star rated product as they are aware of its benefits. To understand the parameters for buying star rated appliance against non-star rated appliance, respondents were asked their preferences in relation to four household appliances – Television, Refrigerator, Air-Conditioner and Washing Machine. For Television, 13 parameters were laid down. Out of this, most important parameters selected by respondents were 'Label and brand name', 'Cost incentive attached like easy EMI, festival offer, free gifts', 'Convenient to use', 'Latest and smart technology' and 'Price'.

- **Findings related to awareness/attitude and factors affecting consumers' GPB**

When respondents were questioned for the level of awareness of GHA, more than 95% of the respondents were aware and familiar with GHA. correlation analysis technique was applied to explore the relationship between consumer's awareness/knowledge about Green Household Appliances and their attitude towards Green Household Appliances. The analysis revealed a significant relationship between consumer's awareness/ knowledge and their attitude towards Green Household Appliances.

- **To determine the factors and their impact on consumers' green purchase behaviour**

Green purchase behaviour refers to the buying decisions of consumers who prioritize environmentally friendly products. Various factors can influence this behaviour, often interrelated and spanning personal, social, and external aspects. The key factors affecting green purchase behaviour included in this study are – Awareness of GHA, Attitude in relation to GHA, Consumers Readiness, Subjective Social norms, Moral norms, Environmental Self-Identity, Warm Glow and Perceived barriers. The researcher has used Karl Pearson's Correlation to explore the relation between these selected factors and green purchase behaviour.

- **Findings related to awareness and recognition of green eco-label system**

The recognition of the eco-label system used for GHA relates to the awareness, understanding, and acceptance of eco-labels by consumers, producers, and other stakeholders. Out of the total respondents surveyed, 95.4% easily recognized the 100% green eco-label. Around 85-87% of the respondents could easily recognize star energy saving, Reuse-Reduce-Recycle and star rated labels. However, around 75% of the respondents were not able to recognize the green seal. Indian Organic and USDA Organic logos were also not recognized by respondents in a large number 85% and 80.2% respectively.

- **Findings in relation to Green Product/ Brand Awareness, Perceived Green Brand Image, Perceived Quality and Purchase Intention**

The relationship between green product/brand awareness and perceived quality is an important aspect of consumer behaviour and brand management, especially in the context of increasing environmental consciousness. Correlation analysis technique revealed a positive correlation between green product/brand awareness and perceived quality.

A green product or brand image refers to the perception that consumers have about a product or brand based on its environmental friendliness. Perceived quality is the consumer's judgment about the overall excellence or superiority of a product or service. Correlation analysis technique revealed a positive correlation between these two variables. Hence, it is concluded that there is a significant relationship between Green Product/ Brand Awareness and Purchase Intention.

The link between green product/ brand awareness and purchase intention is crucial. Green brand awareness is the degree to which customers recognise and remember a brand that supports environmentally friendly behaviours and green products purchase. Purchase intention refers to the possibility that a consumer will buy a particular brand for a particular product. Correlation analysis technique revealed a positive correlation between these two variables. Hence, it is concluded that there is a significant relationship between Green Product/ Brand Awareness and Purchase Intention.

The association between perceived green brand image and purchase intention is strong, and it can be explained by a variety of psychological and behavioural factors. Green Brand Image and Purchase Intention are also positively related. Hence, there is a significant relationship between Green Brand Image and Purchase Intention.

- **Findings related to the impact of Green Marketing Tools on Green Purchase Behaviour**

Green marketing tools refer to methods and approaches used by firms to promote environmentally friendly products or services. To assess the relationship between Green Marketing Tools and GPB, the researcher has applied Karl Pearson's Correlation technique to explore the relationship between Green Brand Awareness and Green Brand Image and Perceived Quality and Purchase Intention. It was found that there is a positive relationship between Perceived Green Product and GPB, Perceived Green Price and GPB, Perceived Green Place and GPB and Perceived Green Promotion and GPB.

- **Findings related to Sustainable Development**

The relationship between consumer demographics and sustainable consumption behaviour is diverse, with age, gender, income and education all having a substantial impact on motives, behaviours, and sustainability attitudes. The researcher has conducted ANOVA Test to explore the relationship between demographic variables and sustainable consumption behaviour. Based on the findings, rejecting null hypothesis, it was concluded that there is a significant relationship between demographic variables and sustainable consumption behaviour.

Conclusion

The study explores consumer behaviour towards selected Green Household Appliances - Refrigerator, Air-Conditioner, Washing Machine and Television. The research analysed perception of consumers' in relation to Eco-friendly products and it was found that - Most respondents view eco-friendly products as beneficial for the environment and trustworthy but find them overpriced and not well-advertised. Key motivations for purchasing these products include environmental responsibility and personal satisfaction. ANOVA analysis shows a positive link between pro-environmental behaviour and energy savings. While many are aware of the environmental impacts of various activities, gaps exist in awareness about CO2 emissions and ocean acidification.

The study also finds that respondents favour energy-efficient appliances due to benefits like lower energy consumption and cost incentives. Factors like brand name and technology significantly influence purchase decisions, while recommendations from others have less impact. Most respondents are happy with their energy-efficient appliance purchases and recognize the importance of these appliances in reducing pollution and saving resources. However, price remains a significant barrier to wider adoption. Correlation analysis reveals a strong relationship between awareness, attitude, and green purchase behaviour. Additionally, green brand image positively influences purchase intention, and demographic analysis shows income as a key predictor of sustainable consumption behaviour.

Scope for Future Study:

The future scope of this research is extensive and multifaceted, providing multiple chances to expand understanding and encourage action towards sustainable consumption. By expanding research in these areas, scholars, legislators, and businesses can gain useful insights and develop more effective tactics to encourage the use of green household appliances, ultimately contributing to larger environmental sustainability goals. The scope entails investigating numerous dimensions and broadening the research in multiple directions in order to better understand and encourage sustainable consumption.

- The study can be extended to various states and countries to compare global trends in the adoption of GHA.
- The study can be further expanded by including other categories of green products like sustainable furniture, eco-friendly/ green buildings, etc.
- Lifestyle, attitude and values can amount to behavioural aspects of psychology. These factors can determine comprehensive understanding of consumers behaviour.
- The cost saving made by consumers due to usage of GHA, reduction in the electricity bills, appliance longevity, etc. can be analysed.
- Future research can evaluate the efficiency of alternative theories to the TPB model, providing a more comprehensive framework for studying pro-environmental behaviour.