

Environmental Knowledge, Concern And Responsibility Towards Green Attitude To Purchase Energy-Efficient Household Appliances

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ABSTRACT

Purpose – Marketers now understand the importance of gauging customer interest in green products before presenting them to diverse target markets. The objective of the paper is to show how environmental knowledge, concern and responsibility affect households' attitude towards the purchase of EEHAs in Tirunelveli District.

Methodology– This study used a convenience sample of 50 Tirunelvelians aged between 21-60 who were recruited for the study. The tool for the data collection was questionnaire used both in Tamil and English for easy understanding. Using correlation and multiple regression, it was determined whether environmental awareness, environmental concern, and environmental responsibility influenced attitudes toward buying energy-efficient home appliances.

Findings – The analysis reveals that the strong positive impact that environment concern, environment knowledge, and environment responsibility have on people's attitudes toward EEHAs.

Practical implications – This article offers vital information for marketers, governmental organisations, and BEE in encouraging energy reduction through eco-friendly applications. These organisations would raise customer awareness and educate them about the advantages of EEHAs.

Keywords: Pro-Environmental Attitude, Environmental Concern, Environmental Knowledge, and Environmental Responsibility.

Introduction

Global warming is posing severe problems all around the world. Hazardous industrial productions have contributed significantly to environmental damage. India is the third-largest producer and consumer of electricity in the world. Electric energy use in agriculture was the highest in the world in 2015-16. In the 1960s, sustainable consumption evolved, emphasising the importance of recycling, reduced purchasing, and the adoption of less polluting items. (Gilg et al., 2005). The tide of sustainable consumption has driven businesses to offer

environmentally friendly products and maintain environmental harmony. (Zinkhan and Carlson, 1995). Chan (2014) highlighted that consumers' sense of responsibility and concern for the environment's safety are important variables in achieving sustainable consumption. Energy consumption is being fueled by growing economies, improved living standards, and technological breakthroughs. Rapid energy Usage is navigating the big hoop of environmental deterioration.

Collection of Data

Data for this study were collected using an hard copy of questionnaire survey in consideration of data convenience. The research area is the Tirunelveli residents in Tamilnadu, India. Residents have been chosen based on convenience sampling where economically developed city places where they consume electricity more. By taking the costly residents Tirunelveli With residents' willingness to buy energy-efficient home appliances We were able to reflect the effects of potential factors, such as the level of economic development, residents' purchasing power, and household energy supply, by using the survey object. This information serves as a crucial benchmark for promoting the purchase and use of EEHAs.

The restricted respondents were those who were at least 21 years old and qualified to make purchasing decisions for home appliances. 59 questionnaires in all were given out throughout the study. 50 valid questionnaires were collected after screening for analysis.

Objective

To investigate how environmental awareness, responsibility, and concern affect households' attitudes toward buying EEHAs in Tirunelveli

Scope

This research brings green consumer, in Tirunelveli District which in turn, minimizing the use of energy to save the needs of future generations. The main findings will be communicated to the Government of India's Bureau of Energy Efficiency for better policymaking and energy-saving measures.

Literature Review Research hypotheses

The attitudes of consumers regarding the adoption of energy-saving household appliances in industrialised nations, such as Ireland, Sweden, the United States, Germany, Europe, South Korea, and the United Kingdom, have been extensively studied throughout the years. Less authors from India have written about energy-efficient gadgets.

Attitude

Attitude is the view that people take of certain events (Ajzen, 1991). Attitude refers to a person's favourable or negative feelings towards something.

Environmental Knowledge

Muhammad Iskandar Hamzah, M. I., & Tanwir, N. S. (2021) reveals that environmental awareness has a positive moderating influence on the connection between green purchasing intention and perceived green value. Garaika, G., & Sugandini, D. (2021) notified that Environmental Knowledge influences environmental attitudes. According to Li, G. et al research from 2019, in habitants' willingness to spend money on energy-saving appliances is considerably positively connected with their environmental understanding. According to Nguyen, T. N. et al. (2016), consumers who are knowledgeable about energy-efficient appliances are more likely to think that purchasing them is essential for protecting the environment. Together, the researcher anticipates that environment awareness will have a favourable impact on attitudes toward purchasing EEHAs, and They have proven their theory in the way that is outlined below.

H1: Environmental Knowledge positively influence to attitude in purchasing energy-household efficient appliances.

Environment Concern

The majority of the study is still in its early phases, but marketers and researchers have worked hard over the past 40 years to pinpoint the variables that affect consumers' environmental consciousness behaviour. Studies by Li, G et al. (2019) found a strong correlation between residents' propensity to buy energy-efficient equipment and their care for the environment. The anticipation that a person's attitude toward buying EEHAs will be positively correlated is supported by the researcher's expectations and the subsequent development of the hypothesis taken together.

H2: Environment concern positively influence on attitude in purchasing EEHAs.

Environment Responsibility

Environment responsibility means the degree of ones' behavioral responsibility towards lack of pollution on environment. Individual responsibility is defined as a self-imposed activity that includes choosing environmentally friendly items, limiting unsustainable consumption, and being emotionally involved in environmental issues. Yu, T et al., (2017) Hamzah, M. I., & Tanwir, N. S. (2021) found that Environmental Responsibility directly significantly effect on attitude. Together, the researcher anticipates that a favourable relation between environment responsibility and attitude toward purchasing EEHAs will emerge, and they have established their hypothesis in the manner shown below.

H3: Environment Responsibility positively influence attitude to purchase in EEHAs.

Reliability test

Reliability test is used to assess the consistency and quality of data in measured items. Cronbach alpha is commonly measured in the range of 0.6 to 0.7. A Cronbach alpha rating of 0.8 to 0.9 is considered to be extremely good. The reliability values range from 0.927 to 0.6, all of which are higher than Nunnally and Berstein's recommended value of 0.6. (1994). As a result, the measures are determined to have appropriate internal consistency reliability. Refer Table 1

Table 1: Reliability Test

Constucts	Items used	Cronbah Alpha
Attitude	5	.638
Environment Knowledge	5	.639
Environmental Concern	5	.927
Environmental Responsibility	4	.705

Table 2: Respondents' Demographic characteristics

Demographic characteristics	Classification	Frequency	Percentage
Gender	Male	17	34
	Female	33	66
Age	21 -30	10	20
	31 – 40	22	44
	41 -50	16	32
	51 and above	2	4

Marital Status	Married	42	84
	Single	8	16
Education	Plus two	10	20
	Diplomo	3	6
	UG	20	40
	PG And Above	17	34
Occupation	Business	6	12
	Private	14	28
	Government	4	8
Income(per month)	Below 15,000	10	20
	15001 - 30,000	19	38
	30,001 – 45,000	13	26
	45,000 and Above	8	16

Analysis about relationship - Correlation

To identify the correlation between Environment Knowledge, Environment Concern, Environment Responsibility and Attitude this research revealed that every variable was correlated.

Table 3: Pearson correlation analysis results

Constructs	EK	EC	ER	A
Environmental Knowledge (EK)	1			
Environmental Concern (EC)	.704	1		
Environmental Responsibility(ER)	.75	.676	1	
Attitude(A)	.689	.75	.634	1

Outcome displays the correlation level 0.758, It is superior to other factors, wherein Environmental concern and Attitude have high positive correlation. Talking about other constructs Relationship in this study All the constructs used for the study is positively correlated each other.

Regression results

The statistical strategy that creates a list of standards and predictor variables. It is also employed to pinpoint the independent variables linked to the dependennt variable. The researcher examines the relationship between environmental knowledge and environmentalism in terms of attitude, responsibility, and concern in this current study. The suggested model was assessed using the parameters R2, F-ratio of overall fit, residual and hypothesis testing, and t-test of specific parameters. These standards were applied in this investigation to find constructs that positively and directly influenced one another.

Regression analysis of Environmental Knowledge vs Attitude:

The hypothesis (H₁) whether the environment knowledge will have a favourable impact on attitude of households in purchasing EEHAs has been proposed, with tested outcomes displayed in the table. 4. Outcome showed that t-test value (4.272) was positive and the p-value was less than 0.05 (p0.05). Consequently, the findings confirm the theory, so the environmental knowledge will have a favourable impact on attitude of households in purchasing energy efficient household appliances which had the capacity to clarify 56.2 %. (R₂ =0.562). So H₁ is supported.

The result indicates that the environmental knowledge of energy efficient appliances such as energy conservation, environmental degradation, environmental symbols used on

energy efficient appliances packaging will make customer positive attitude in buying energy efficient appliances.

Table 4: Coefficients of Environmental Knowledge on Attitude to purchase energy efficient appliances

R ² Value 0.562-(56.2 %)				
Model	Coefficient of Environmental Knowledge on Attitude			
	Unstandardized coefficients	Standardized co-efficients		t-value
Sig.	B	Standard Error	β	
Constant 0.000	3.145	.736		4.272
Environmental Knowledge 0.000	.258	.192	.191	3.346
Dependent variable: Attitude				

Regression analysis of Environmental Concern vs Attitude:

The hypothesis (H2) that there is a direct and favourable impact of environmental concerns on attitude to purchase has offered outcomes presented in the desk 4 . The outcome had explained that the p-value for the study and t-test value were both less than 0.05. (5.246) which was favourable or positive. Hence so the results nourished the hypothesis, so the environmental concern will have a direct and positive influence on attitude to purchase and be capable of demonstration of 31.6%. (R² = .316). So H₂ is supported.

The result indicates that the environmental concern of appliances such as air pollution, climate change water pollution and natural resource depletion will make the customer positive attitude in purchasing EEHAs.

Table 5: Coefficients of environmental awareness and behaviour to purchase EEHAs

R ² Value 0.316-(31.6 %)				
Model	Coefficient of Environmental Concern on Attitude			
	Un.standardized co-efficients	Standardized co-efficients		t-value.
Sig/	B	Standard. Error	β	
Constant .000	3 . 606	.253		5.246
Environmental Concern	.177	.077	.316	2.346 0.000
Dependent variable: Attitude				

Regression analysis of Environmental Responsibility vs Attitude:

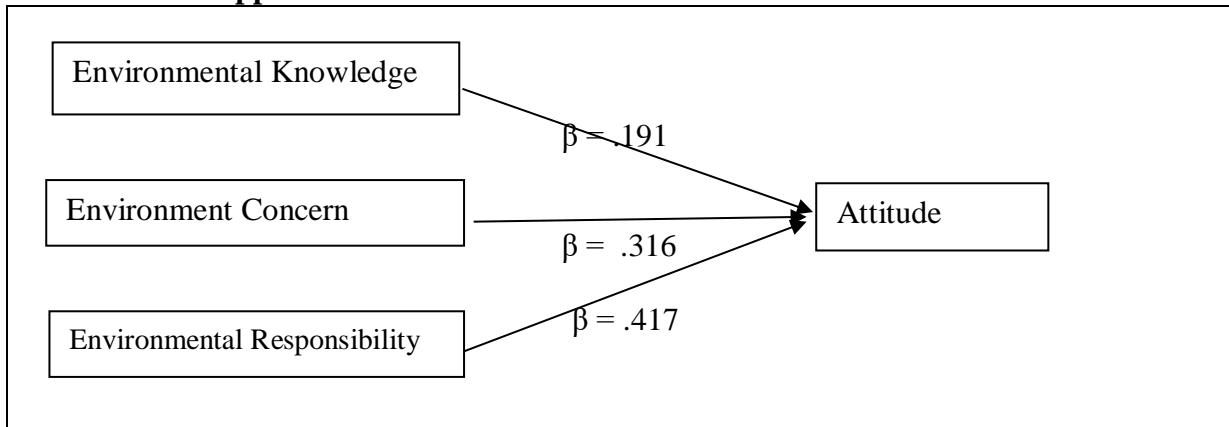
The results showed that the p-value was < 0.05 and the positive t-test value was 6.524. Consequently, the findings support the concept. the environmental concern will have an immediate and favourable impact on attitude to buy and capability of 21.9%. (R² =0.21.9). So H₃ is supported.

The result indicates that the environmental responsibility of environmental degrades such as considering environmental issue, changing households due ecological reasons, involving environmental issues, energy conservation will make the customer favourable attitude in purchasing EEHAs.

Table 6: Co-efficients of Environmental Responsibility on Attitude to purchase EEHAs

R ² Value .319-(31.9 %)					
Sig/	Co-efficient of Environmental Responsibility on Attitude				
	Un.standardized co-efficients		Standardized co-efficients		t.value
	B	Standard Error	β		
	2.812	.431		6.524	0.000
Environmental Responsibility	.369	.116	.417	3.179	0.000
Dependent variable: Attitude					

Modeling of environmental influences on people' attitudes toward buying energy-efficient home appliances



Source: Based on a thorough examination of the literature on energy efficient household appliances and results, the above conceptual framework is proposed for this paper

Conclusion

The effect correlation in environment concern, knowledge and responsibility on green attitude were found to be positive in this study. We draw the conclusion that residents' understanding of the importance of energy conservation and emissions reduction, as well as their attitudes toward adopting energy-efficient household equipment, will improve as a result of environmental concern, knowledge, and responsibility. Talking about regression analysis the result indicates that the environmental knowledge, concern and responsibility will make the customer positive attitude in purchasing energy efficient household appliances.

In this study, we developed and examined a research model to explain how attitudes toward purchasing energy-efficient household appliances are influenced by environmental knowledge, responsibility, and fear. In Tirunelveli, a less-studied region, an online survey was used to learn more about consumers' pro-environmental sentiments and their preferences for energy-efficient household equipment. If we wish to stop environmental damage and carbon emissions, it's critical to examine the environmental factors that affect the purchase of energy-efficient appliances.

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The Measurement of the Constructs

S.No	Variables	Source
1	Attitude	Nguyen, T. N., Lobo, A., & Greenland, S. (2017).
2	Environmental Knowledge	Mostafa, M. M. (2007)
3	Environmental Concern	Kumar, R., Saha, R., Sekar, P. C., & Dahiya, R. (2019)
4	Environmental Responsibility	Hamzah, M. I., & Tanwir, N. S. (2021)