

A Study on Environmental Citizenship and Eco-Friendly Apparel Purchasing Integrated Nanotechnology for Sustainable

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ABSTRACT

Introduction: The literature highlights a growing demand for environmentally sustainable solutions, especially in the field of environmental nanotechnology. This study investigates the relationship between environmental citizenship and the adoption of nanotechnology-based green products

Objective: The research validates a six-item environmental citizenship model, aiming to predict its influence on consumer behavior toward eco-friendly nanotechnology products. Primary data is collected through a survey of 100 respondents, using a non-probability convenience sampling method.

Methods: Descriptive statistics are employed to assess attitudes toward the constructs, while correlation analysis examines the interrelationships between variables. Regression analysis is used to predict the influence of environmental citizenship on the adoption of nanotechnology products.

Results: For statistical analysis, SPSS version 22 is utilized. The findings reveal significant correlations between the constructs and a strong relationship between environmental citizenship and the adoption of nanotechnology-based green solutions.

Discussion: The findings reveal significant correlations between the constructs and a strong relationship between environmental citizenship and the adoption of nanotechnology-based green solutions.

Keywords: eco-friendly product, green apparel, frequency of purchasing

INTRODUCTION

In the present circumstances, several studies have handled the expanding customer significance for non-conventional items. One of the reasons why these items are being considered is a general concern for one's eco-friendly attitude. Sustainable development and environmental challenges have become a global concern. It also emphasizes the necessity of open inspirations i.e. the desire to contribute with pro-environmental activity or love nature. The notion of environmental citizenship has gone quite far from the Ancient Greek or Marshallian conceptions of citizenship as rights and obligations of membership in a nation state (Huttunen et al. 2021). Resistance to pro-environmental conduct, which aims to reduce negative impacts on the natural and built world, may stem from psychological distance or habit. Environmental citizenship is a unique type of citizenship with distinctive qualities. Environmental citizenship can take individual and group action to safeguard the environment. Environmental citizenship conduct is pro-environmental behaviour in a variety of settings, motivated by a belief in equitable distribution of environmental goods, involvement, and co-creation of sustainability policies. Environmental citizenship necessitates skills, obligations, rights, awareness, and responsibility to promote environmentally responsible behaviour.

Consumers purchase green items for environmental, health, and safety reasons. The most environmentally friendly phase in the textile supply chain is clothing manufacturing. Colours and solvents were often thought to be the sole environmentally damaging aspects of the textile production process. Apparel is such an essential human need that it is one of the world's most important industries. Apparel is a common product used in our everyday life. In recent days, India's domestic textile market was valued at \$100 billion, with increased exports of around \$50 billion. The Indian government empowers the textile sector to compete worldwide, attract considerable investment, and create jobs (Strategic Investment Research Unit, 2021). Green apparel goods should first be needed to be made of materials with green qualities. In other words, throughout the whole life cycle of clothes, such materials should be helpful to lowering energy consumption and minimizing the environmental impact (Zhexin et al. 2015). Green apparel is elaborated as Fabric cotton/Plants that have been cultivated naturally and organically or with natural materials, recycled materials, good deal, or uses some or all organic cotton (Benneet and Sudhamathi, 2022) Organic clothing is popular among Indian consumers, and traditional manufacturing processes make up a significant portion of clothing lines. Traditional garment handicraft is the second most important source of employment in India (Arpita Khare and Amrut Sadachar (2017) Cost, quality, and other monetary or philosophical concerns have little impact on this form of buying. Online consumers who care about the environment are more likely to choose eco-friendly clothes than those who do not, and they prefer to buy eco-friendly apparel when it is widely available and reasonably priced. Hence the research is focusing on the deepest insight of environment citizenship, and to know the impact of environmental citizenship towards the purchasing of ecofriendly product like green apparel. Environmental citizenship refers to the sense of responsibility and awareness individuals have towards protecting the environment and promoting sustainability. In the context of purchasing behavior regarding eco-friendly apparel, environmental citizenship plays a significant role. Key attributes contributing to environmental citizenship include awareness of environmental issues, sense of responsibility towards sustainability, and active engagement in pro-environmental behaviors. These attributes influence decision-making by guiding individuals to prioritize eco-friendly options, advocate for sustainable practices, and make choices aligned with environmental values, shaping a more conscientious consumer mindset.

OBJECTIVES OF THE RESEARCH

- To elucidate the concept of Environmental citizenship
- To elucidate about eco-friendly product
- To examine the relationship between the Environmental citizenship and purchasing of green apparel.

LITERATURE REVIEW

Hoda Saleh et al. 2024 the environmental citizenship dimensions obtainable by the websites did not sufficiently address the issues, the author suggested that Facebook create dedicated pages addressing environmental issues and incorporate the environmental citizenship dimensions in an interactive manner through the platform's cutting-edge applications.

Cristiano Luis Lenzi (2023) environmental citizenship in the literature of the Social Sciences is currently marked by a conceptual dispute, builds a criticism of the idea of liberal environmental citizenship by referencing the idea of cosmopolitan environmental citizenship. Because the pursuit of sustainability is typically seen as a process involving public involvement, environmental citizenship therefore shows to be essential to the understanding of environmental public policy. especially noticeable in fields like environmental education, where environmental citizenship is typically considered to be one of its fundamental components.

Elisabete Linhares and Pedro Reis (2023) A pedagogical approach to environmental citizenship for pre-service teachers. Concerns center on this intervention's potential for education as well as its difficulties. Improvement of critical thinking abilities as well as a deeper comprehension of the complexity of the environmental concerns discussed. The pre-service teachers realized that using nature-based solutions to promote their environmental citizenship might have educational benefits.

Kodiveri, Arpitha (2022) Given the presence of numerous players and interests in our forests' natural resources, environmental citizenship is called into question. This contestation is heightened by the rising concept of corporate

citizenship, in which businesses serve as arbiters of citizenship rights in the absence of the state. I study the reforms suggested by the current administration to our environmental legislation within the context of environmental citizenship and its link to corporate citizenship.

Georgiou Y et al. (2021) Given the current environmental crisis and the growing need for schools to empower students to become environmental citizens, it is imperative to look at teachers' perspectives since they play a critical role in helping students develop their environmental citizenship. This study, which looks at how teachers perceive environmental citizenship, found that teachers' perspectives are limited to the local level, the person dimension, and the private sphere and they show a somewhat diminished grasp of environmental citizenship.

Mario D'Arco and Vittoria Marino (2021) Environmental citizenship behaviour is examined using the norm-activation paradigm, as well as the moderating influence of sustainability apps on environmental citizenship shown that there is a positive and substantial association between knowledge of consequences, attribution of responsibility, personal norms, and environmental citizenship activity in both the private and public sectors. Measured using 16 items, with 549 valid respondents.

Huttunen et al. (2021) Environmental citizenship is a valuable tool for understanding the relationship between citizenship and the environment. However, there is great variety in how environmental citizenship is viewed in terms of both citizenship and its link to the environment. Environmental citizenship literature has been impacted by the relational view to space, the emphasis on citizenship as acts and processes rather than a status, and a wide range of post-human ideas.

Fatimah and Sarbaini (2021) Environmental citizenship, which is based on citizenship exercises in the context of local, national, and global networks, includes the concept of ideas that play a critical role in demonstrating proper qualities and practices for achieving sustainability through changes in close-to-home behaviour, being earth-capable residents; "great" discipline, "green" conduct, and a greater emphasis on natural rights. Environmental citizenship is defined as "pro-environmental behaviour, both public and private, motivated by a belief in the equitable distribution of environmental virtues."

Nicole Bauer et al. (2020) Environmental citizenship is typically characterized as a citizenship motivated by green concepts that result in ecologically good behaviour. Individual-level analyses of Environmental Citizenship must be supplemented with a more contextualized perspective on the idea. In the following sections, we will define our main idea, examine the link between environmental attitudes and values, offer empirical studies on environmental attitudes, with a particular emphasis on measuring methodologies, and conclude with a summary of how attitudes might evolve.

Agus Priadi et al. (2018) In terms of Environmental Citizenship Behaviours, it is possible to infer that all of these entry-level variables, ownership variables, and empowerment variables have both direct and indirect effects on environmental citizenship behaviour. The research was designed to evaluate both direct and indirect effects among factors. The factors in the Entry Level, Ownership, and Empowerment of Influential directly and indirectly toward Environmental Citizenship Behavior to the environment were established within the framework of the flowchart.

Helen Pallett (2017) The relevance of environmental citizenship will be examined in light of efforts to delegate environmental decision-making to both worldwide and highly localized initiatives. Evolving modalities of connecting with and perceiving environmental citizens are presented, followed by a discussion of how expanding claims regarding nonhuman nature's rights might be included into models of environmental citizenship.

Andrew Dobson (2007) improvements in behavior and attitudes are discussed, with the argument that attending to the latter will result in more secure and long-term improvements in the former. Fiscal incentives are compared and contrasted with the 'environmental citizenship' approach to attitude development, which is based on principles of fairness and injustice. The citizenship curriculum at the high school level is thought to promote environmental or ecological citizenship.

THE PRESENT STUDY

It is suggested in this literature-based research that Environmental citizenship is related to the purchasing of green apparel. We therefore propose that relation between Environmental citizenship and the purchasing of green apparel (fig. 1).

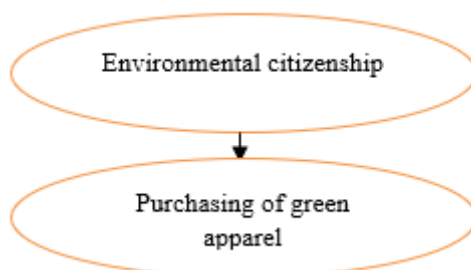


Figure 1: Environmental citizenship and the purchasing of green apparel

The methodology used in the research likely involved surveys or interviews to assess participants' levels of environmental citizenship, including their awareness of environmental issues, sense of responsibility towards sustainability, and engagement in pro-environmental behaviors. Researchers may have used validated scales or constructs to measure these attributes.

To evaluate the impact on purchasing behavior regarding green apparel, researchers likely employed methods such as self-reported intentions to purchase eco-friendly clothing, actual purchase behavior, or hypothetical scenarios to gauge preferences and decision-making processes. Statistical analyses such as correlation, regression, or structural equation modeling may have been used to assess the relationships between environmental citizenship and purchasing behavior while controlling for other factors. Additionally, qualitative data may have been collected to provide insights into the underlying motivations and drivers behind consumers' choices regarding green apparel.

SAMPLE

The study used non-probability sampling technique. Convenience sampling method is used to select the sample. An electronic questionnaire was distributed to 100 respondents in Chengalpattu district, Tamil Nadu. 100 fully completed response received. Hence the research consists a sample of 100 consumers. The age range of the respondents of this research was below 30 years to above 50 years. The majority of the respondents were women. To predict the analysis from the data using SPSS 22. The analysis of descriptive statistics, Correlation and regression analyses.

MEASUREMENT

The scale adopted from Mario D'Arco and Vittoria Marino (2021) which contains six indicators, is used to measure Environmental citizenship 1) I buy products that are friendly to the environment, 2) I keep the surrounding environment clean, 3) I vote for a candidate or referendum that supports environmental protection, 4) I encourage people around me joining and donating to environmental organizations, 5) At home, I reduce the amount of energy I use, 6) I use recyclable products. with a five-point Likert scale, with 5 (strongly agree) to 1 (strongly disagree). Purchasing of green apparel is measured by using 'How often you had purchased green apparel in the earlier months', respondents were asking to think and indicate on a scale of 5(very often) to 1(rarely) (Table 1).

Table 1: Data analysis

Variables	Median	Mode	Mean	
Environmental citizenship				
I buy products that are friendly to the environment	4.00	4	4.03	.627
I keep the surrounding environment clean	4.00	4	4.21	.556
I vote for a candidate or referendum that supports environmental protection	4.00	4	3.61	.803
I encourage people around me joining and donating to environmental organizations	4.00	4	4.28	.653
At home, I reduce the amount of energy I use	4.00	4	3.93	.820
I use recyclable products	4.00	4	4.17	.604
How often you had purchased green apparel in the earlier months	4.00	4	3.77	.993

Table-1 shows the constructs of Environmental citizenship and purchasing of green apparel and their mean value (Shahin akbarov et al., 2020) suggest that the mean scores demonstrate the level or value that consumers given to the aspect.

The correlation analysis showed in the table-2 of this research, the analysis shows positive and significant relationships among the indicators.

Table 2: Correlation Matrix

		EC1	EC2	EC3	EC4	EC5	EC6	PGA
Correlation	EC1	1	0.157	0.002	0.126	0.123	0.067	0.109
	EC2	0.157	1	.511**	.417**	.454**	.373**	.479**
	EC3	0.002	.511**	1	.396**	.526**	.367**	.351**
	EC4	0.126	.417**	.396**	1	.550**	.503**	.343**
	EC5	0.123	.454**	.526**	.550**	1	.463**	.452**
	EC6	0.067	.373**	.367**	.503**	.463**	1	.216*
	PGA	0.109	.479**	.351**	.343**	.452**	.216*	1

** . Correlation is significant at the 0.01 level (2-tailed).
* . Correlation is significant at the 0.05 level (2-tailed).
*p<0.05, **p<0.01

To predict the relationship between the Environmental citizenship and purchasing of green apparel using regression analysis in SPSS 22.

Table 3: Coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	Constant	1.436	.529		2.715	.008
	EC	.120	.023	.472	5.306	.000
a. Dependent Variable: PGA						

The above table 3 shows the values of the model. The unstandardized coefficients B value shows .120 and the S.E .023. Standardized Coefficients beta value shows .472. The t value is 5.306. The p value is < 0.05. The p- value is significant (p, <0.05). This shows that the variable Environmental citizenship has a strong influence with purchasing of green apparel.

FINDINGS

The findings of this research predicted by the data collected, the analysis used were, Descriptive statistics to know the attitude towards Environmental citizenship, Correlation analysis were used to know the relationship among Environmental citizenship and regression analysis were used to know the relationship between Environmental citizenship and purchasing of green apparel. Table-1 shows that the mean scores below 4.3 for Environmental citizenship on five-point scale. 'I encourage people around me joining and donating to environmental organizations' (M=4.28; S. D=.653). This indicator was highest scoring. follow to that 'I keep the surrounding environment clean' (M=4.21 ;S.D=.556), 'I use recyclable products' (M=4.17 ;S.D=.604), 'I buy products that are friendly to the environment ' (M=4.03 ;S.D=.627), 'At home, I reduce the amount of energy I use' (M=3.93 ;S.D=.820), 'I vote for a candidate or referendum that supports environmental protection ' was the lowest with the (M=3.61;S.D=.803). The response of How often you had purchased green apparel in the earlier months (M=3.77, SD= .993). The correlation analysis shows the degree of closeness or intensity of the relationship between the variables are indicated by a numeral called correlation coefficient. The sign + or – prefixed before the correlation coefficient indicates the direction of correlation. The value between -1 to +1 where +1 refers to the positive correlation and -1 refers to the negative correlation. Higher the correlation coefficient, closer is the relationship and vice versa. The correlation analysis in the above table-2 showed the strong relationship between the indicators of Environmental citizenship and purchasing of green apparel. It the table shows all the values are in positive with the significant p-value < 0.05. The outcome of the result from the regression analysis table-3 shows that beta value of .472, p < .01, the significance value is less than 0.05. A higher absolute value of the beta coefficient indicates a more significant influence (Chunlei Chai et al., 2015).

CONCLUSION

The momentous scenario for environmental destruction is severe and growing. Likewise, the study found a high degree of environmental citizenship. Environmental citizenship involves mainly ancillary behaviors. Hence the research shows a positive value and the p value indicate the significant relationship among the variables, Therefore the result shows the variable Environmental citizenship having relationship with Purchasing of green apparel. The results revealed that there is a positive and significant relationship between Environmental citizenship and purchasing of green apparel. At the point when consumer shows higher Environmental citizenship, simultaneously, this is identified with a Purchasing of green apparel. The findings show that Environmental citizenship directly affects the Purchasing of green apparel. Greater Environmental Citizenship, which indicates the more a person's understanding of ecology and the respondents give more preference to the environment friendly product, the better his or her environmental citizenship conduct. In this research we used mediating variables nostalgia and tradition, future research may analyze adding mediating variables in the relationship between Environmental citizenship and purchasing of green apparel in different place or region.

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