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AN EMPIRICAL ANALYSIS OF ENVIRONMENT CONSCIOUS AND AWARENESS TOWARDS ECO-FRIENDLY PRODUCTS

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ABSTRACT

Consumer behavior is influenced by various factors. Their attitudes towards buying products are now a day's changing towards environment friendly. This paper intends to study the general environment beliefs of the consumers. It reports the results of a consumer general environmental belief by survey using a questionnaire based on the Dunlap and Van Liere HEP-NEP environmental survey. The New Ecological Paradigm scale is a measure of endorsement of a "pro-ecological" world view. Environment concern and social influence of the respondents are taken into consideration in this article to analyze the awareness and environment concern of the consumers which are the factors that will make them to buy eco-friendly products. This paper also tends to ascertain the respondents awareness about green products.

The present study is the exploratory examination of environmental consciousness using the New Ecological Paradigm (NEP) scale. The study reveals that the respondents are conscious about environment and are aware about eco-friendly products.

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INTRODUCTION

Consumer values and beliefs need to be considered when examining the influences that affect purchasing decisions. Environmental value plays a primary role in pro-environmental behavior. So gaining knowledge of the public on environment beliefs will help to evaluate consumer buying decisions. Environmental attitudes and behaviors are indeed caused by socio-cultural norms and socialization and hence they are likely to vary according to culture (Davidson & Freudenberg, 1996).

This paper reviews environment conscious by using a questionnaire based on the Dunlap and van Liere HEP-NEP environmental survey. When people are environmentally aware they will plan in such ways that prevent causing damages to the environment. Environment conscious is alone will not help to prevent damages, the awareness about the eco-friendly products and the attitudes of general consumers need to be studies. In this article the factors that are relate to environment awareness were taken into study. Green products or eco-friendly products are those which are less detrimental to the society. When people know about those eco-friendly products they will buy such kind of products and they will also influence others to buy such products, so the factors which make people aware about environment product were also taken into study.

LITERATURE REVIEW

Consumers' environmental concerns are connected to the benefit towards the biophysical environment and its issues connected to the consumer and the surroundings. Initially, gender plays an essential role in consumerism and environmental consciousness. (Kaufmann, Panni, Orphanidou, 2012).

The role of marketing has become a matter of discussion as lifestyles and consumption patterns in the industrialized world are a major originator of environmental damage. On the one hand, marketing has been criticized for contributing to the environmental degradation by emphasizing on consumption, consequently contributing to a throwaway society and emphasizing on satisfying short-term consumer or customer wants. On the other hand, marketing can be seen as a significant instrument in order to sell new lifestyles and change overall consumption habits, not only to ecologically concerned consumers. Thus, marketing should contribute to more sustainable forms of society. Marketing has developed and widened its scope towards ecological issues from focusing on the production process, transaction and exchange. (Tjarnemo, 2001, p. 34-36) Indeed, the relationship between attitudes and behavior is one that has been explored in a variety of contexts. For instance, Bang *et al.* (2000) found that consumers who

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were more concerned about the environment expressed more willingness to pay more for renewable energy than those who were less concerned.

Hoyer and MacInnis, (2004) state that consumers' values and beliefs need to be considered when examining the influences that affect purchasing decisions. Values are enduring beliefs that a given behaviour is desirable or good and include valuing the environment. Environmental values play a primary role in proenvironmental behaviour: values affect people's beliefs, which then have influences on personal norms that lead to consumers' pro-environmental behaviours (Reser and Bentrupperbaumer, 2005; Stern, 2000)

Kronrod *et al.*, (2015) highlighted and explained the surprising prevalence of assertive environmental messages in the media. Environmental agencies, which are populated with people who perceive protecting the environment as a highly important issue, should understand that not all consumers are as informed and concerned about the environment.

Environmental marketing, more popularly known as green marketing or sustainable marketing can be defined as the effort by a company to design, promote, price and distribute products in a manner which promotes environmental protection (Polonsky, 2011).

The study by Ottaman, (1993) and Ken Peattie, (1993) examines and found that conventional marketing is out and green marketing is in. In the developed countries, the emergence of environmental consciousness that followed Earth Day in 1990 washed over the marketplace rapidly. In poll after poll, consumers claim they are willing to change their buying habits-and even pay more for products-to protect the environment (Pearce, 1990; Coddington, 1993; Davis, 1993; McDougall, 1993; Ottoman, 1993).

Antonio *et al* (2009) suggested that due to environmental consciousness that has evolved over time, studies on green consumerism will be the main focus point in future leading to identifying the consumer attitudes, behaviors and intentions.

According to Meffert and Kirchgeorg (1993), environmentally conscious consumer behavior might be accomplished in several different ways. The majority only considers a couple of factors, instead of taking advantage of all the opportunities. Meffert and Kirchgeorg (1993) identified five types of behavior which an environmentally conscious consumer might choose: (1) Reducing the consumption of traditional goods, (2) adjusting demand-purchasing eco-friendly products instead of traditional ones, (3) consuming environmentally efficient goods, (4) participation in recycling, in separate waste collection, (5) environmentally conscious complaints or protests.

A green consumer is defined by Peattie (2001, p. 187-191) as someone who voluntarily engages in consumer practices that are regarded as environmentally friendly by marketing academics and practitioners. Thus, green or environmentally friendly activities deal, for instance, with energy-efficient operations, better pollution controls and recycled materials (Armstrong and Kotler, 2007, p. 509).

Objectives of the study

- To impart the knowledge of New Ecological Paradigm scale.
- To measure the environment consciousness of the respondents by using New Ecological Paradigm scale
- To ascertain awareness of the respondents regarding eco-friendly products.

METHODOLOGY

In order to attain the objectives both the primary and secondary data are collected. The first stage of the research consists of data collected by way secondary data. Secondary data are collected from various articles and books. The primary data are collected through questionnaire, which contains the HEP-NEP questions (Dunlap and van Liere, 1978) to measure consumer general environmental beliefs with the possible responses of strongly agree to totally disagree. The final part of the research consists of analyzing data by using t-test to verify whether the respondents are aware of the green products. Five point Likert scale (5, 4, 3, 2, 1) technique is used to quantify the variables. Each proposition is considered as a variable and most of the propositions are framed in a positive scale. The statistical methods used in the analysis are: Coefficient of Variation - to analyze the average level of perception of the respondents, mean and standard deviations. Student's t-test-is used to explain the equality of average level of perceptions.

Environment Conscious

The environment and preservation of it has been a worldwide concern due to modern human evolution. The term environment conscious include environment friendly, eco friendly, nature friendly and green. To protect our environment and minimize destruction of ecosystem human moral is essential. Ecological conscious consumer behaviour can be defined as the behaviour undertaken with the intention to change or benefit the environment (Stern, 2000). Concern on environment is displayed in the purchases made by of the consumers.

The New Ecological Paradigm Scale and the measurement of environmental attitude

The New Ecological Paradigm (NEP) Scale is the most widely used measure of environmental attitude (Dunlap, 2008; Hawcroft & Milfont, 2010). The NEP Scale is a 5- point Likert-type scale consisting of 15 items or statements about the human-environment relationship. The scale was developed by Dunlap *et al.* (2000) as a revision and extension of the original 12-item New Environmental Paradigm (NEP) Scale to measure an individual's primitive beliefs about the relationship between humans and the environment. Dunlap *et al.* (2000) hypothesise the existence of five facets or dimensions of ecological worldview which focus on beliefs about: humanity's ability to upset the balance of nature (balance), the reality of limits to growth (limits), human domination of nature (anti-anthropocentrism), the idea that humans – unlike other species, are exempted from the constraints of nature (antiexemptionalism), and the possibility of an eco-crisis (eco-crisis). Each facet of ecological worldview is measured using three items which are interspaced with items measuring other facets. Agreement with eight odd-numbered items and

disagreement with the seven even-numbered items indicates pro-NEP responses (Dunlap *et al.* 2000). The seven even-numbered items are reverse coded. An individual's score which indicates the degree of endorsement of an ecological worldview is the sum of the scores on the 15 items and has a range of 15 to 75 with higher scores indicating pro-NEP. Before the item scores are combined into a single summated scale, they are checked for internal consistency.

- Humans will eventually learn enough about how nature works to be able to control it DSP
- Balance of nature
- When humans interfere with nature it often produces disastrous consequences NEP
- The balance of nature is strong enough to cope with the impacts of modern industrial nations DSP
- The balance of nature is very delicate and easily upset NEP

Table 1 The New Ecological Paradigm Scale items.

Formulation	Formulation Code	Lipid composition (Molar Ratio)
NEP 1	We are approaching the limit of the number of people the earth can support.	(Limits)
NEP 2	Humans have the right to modify the natural environment to suit their needs	(Anti-anthropocentrism)
NEP 3	When humans interfere with nature it often produces disastrous consequences.	(Balance)
NEP 4	Human ingenuity will insure that we do not make the earth unlivable.	(Anti-exemptionalism)
NEP 5	Humans are severely abusing the environment.	(Eco-crisis)
NEP 6	The earth has plenty of natural resources if we just learn how to develop them.	(Limits)
NEP 7	Plants and animals have as much right as humans to exist	(Anti-anthropocentrism)
NEP 8	The balance of nature is strong enough to cope with the impacts of modern industrial nations.	(Balance)
NEP 9	Despite our special abilities humans are still subject to the laws of nature.	(Anti-exemptionalism)
NEP 10	The so-called 'ecological crisis' facing human kind has been greatly exaggerated.	(Eco-crisis)
NEP 11	The earth is like a spaceship with very limited room and resources.	(Limits)
NEP 12	Humans were meant to rule over the rest of nature.	(Anti-anthropocentrism)
NEP 13	The balance of nature is very delicate and easily upset.	(Balance)
NEP 14	Humans will eventually learn enough about how nature works to be able to control it.	(Anti-exemptionalism)

Five point Likert scale has been used to identify the awareness of green marketing among the consumers. The respondents were asked to evaluate the statements by selecting one of the options from strongly agree, agree, neutral, disagree and strongly disagree.

Aspects of NEP

Human domination over nature

- Humans have the right to modify the natural environment to suit their needs DSP
- Plants and animals have as much right as humans to exist NEP
- Humans were meant to rule over the rest of nature DSP
- Human exemptionalism
- Human ingenuity will insure that we do NOT make the earth unliveable DSP
- Despite our special abilities humans are still subject to the laws of nature NEP

The risk of an ecocrisis

- Humans are severely abusing the environment NEP
- The so-called 'ecological crisis' facing humankind has been greatly exaggerated DSP
- If things continue on their present course, we will soon experience a major ecological catastrophe NEP
- Limits to growth
- We are approaching the limit of the number of people the earth can support NEP
- The earth has plenty of natural resources if we just learn how to develop them DSP

Analysis and Interpretation

H1-Opinions regarding environment consciousness is average
Null Hypothesis:

Opinions regarding environment consciousness of all statements are equal to average level.

Table 2 Table showing Mean and Standard Deviation of NEP statements

Sl.No.	Statements	Mean	Std. Deviation
1	We are limiting the number of people the Earth can support	4.08	.634
2	Human have right to modify the natural environment	3.84	1.037
3	When human interfere with nature, it produces disastrous consequences	3.82	.720
4	Human ingenuity will insure that we do not make the earth unlivable	3.40	.782
5	Humans are seriously abusing the environment	3.96	.832
6	The earth has plenty of the natural resources if we just learn how to develop them	4.50	.580
7	Plants and animals have as much right as humans to exist	4.28	.927
8	The balance of nature is strong enough to cope with the impacts of modern industrial nations	3.74	.777
9	Despite our special abilities, humans are still subject to the laws of nature	3.82	.941
10	The so-called "ecological crisis" facing human kind has been greatly exaggerated	3.44	.787
11	The earth is like a spaceship with very limited room and resources	3.74	.922
12	Humans were meant to rule over the rest of nature	3.40	1.309
13	The balance of nature is very delicate and easily upset	3.44	1.013
14	Humans will eventually learn enough about how nature works to be able to control it	3.80	.808
15	If things continue on their present course, we will soon experience a major ecological catastrophe	3.62	.878

Source: Primary Data

Alternate Hypothesis

Opinions regarding environment consciousness of all statements are not equal to average level.

RESULT

The above table shows the respondents’ general beliefs on environment. It shows that respondents strongly agreed to all the statements and are conscious on environment. Even though the respondents strongly agreed that the environment need to be saved they did not agreed that human were not meant to rule the nature. Out of 15 propositions all are above 3 which means all the respondents generally believe in nature and are having an positive opinion towards the environment. They also strongly agree that the earth will have plenty of natural resources if we just learn how to develop them.

products data regarding Environment concern are also collected. Mean and Standard Deviation for the collected data are calculated using Likert five point scale and the responses are depicted in Table 4.

H2-Opinion regarding environment concern of the respondents are average

Null Hypothesis (H0)

The opinion regarding Environment concern of all statements is equal to average level.

Alternate hypothesis (H1)

The opinion regarding Environment concern of all statements is not equal to average level

Table 3 Table showing t-value and p-value of NEP statements

Sl.No.	Statements	Mean	P Value
1	We are limiting the number of people the Earth can support	12.050	0.001
2	Human have right to modify the natural environment	5.726	0.001
3	When human interfere with nature it produces disastrous consequences	8.057	0.001
4	Human ingenuity will insure that we do not make the earth unlivable	3.615	.001
5	Humans are seriously abusing the environment	8.159	0.001
6	The earth has plenty of the natural resources if we just learn how to develop them	18.278	0.001
7	Plants and animals have as much right as humans to exist	9.767	0.001
8	The balance of nature is strong enough to cope with the impacts of modern industrial nations	6.730	0.001
9	Despite our special abilities, humans are still subject to the laws of nature	6.162	0.001
10	The so-called "ecological crisis" facing human kind has been greatly exaggerated	3.955	0.001
11	The earth is like a spaceship with very limited room and resources	5.678	0.001
12	Humans were meant to rule over the rest of nature	2.160	.036
13	The balance of nature is very delicate and easily upset	3.070	.003
14	Humans will eventually learn enough about how nature works to be able to control it	7.000	0.001
15	If things continue on their present course, we will soon experience a major ecological catastrophe	4.993	0.001

Source: Primary Data

Result

Since P Value is less than 0.001, the null hypothesis is rejected at 1% level of significance. Hence it is concluded that opinions regarding all the statements were above average level, except humans were meant to rule over the rest of nature. It shows that respondents agreed and are environment conscious. Even though the respondents strongly agreed that the environment need to be saved they did not agree that humans were not meant to rule the nature. Out of 15 propositions all are above 3 which means all the respondents are generally believe that the nature has to be protected and have an positive opinion towards the environment. They also strongly agree that the earth has plenty of natural resources if we just learn how to develop them. This analysis helps in finding the awareness of green products and the perception of consumers towards it.

Hypothesis

The terms “green” or “sustainable” often refer to products, services or practices that allow for economic development while conserving for future generations. Environment concern of the people will help to know their purchasing attitudes. To study the respondents’ attitude towards environment, data regarding environment concern are collected. To know environment concern and to assess the awareness about green

Table 4 Table showing Mean and Standard Deviation for Environment concern

Environment concern	Mean	Std. Deviation	t value	P value
Environment is a major concern	4.18	.691	12.079	.000
Emotionally involved in environment issues	3.84	.976	6.083	.000
Realize to improve the environment quality	3.94	.843	7.885	.000
Concerned about environment issues near my house	3.94	.793	8.381	.000
Care about future environment	3.80	.904	6.261	.000

Source: Primary Data

Result

Since P value is less than .001, the null hypothesis is rejected at 1% level of significance. Hence it is concluded that the opinion regarding all the statements of environment concern is not equal to average level. When analyzing the data it shows that the mean value of all the statements is above average level. Based on the result it is concluded that respondents are concerned about environment and they are involved in environment issues. It shows that respondents are concerned about their environment and they also care about future environment.

H3: Awareness of green products among respondents are average level

The data regarding awareness of respondents on green marketing are collected. Mean and Standard Deviation for the collected data are calculated using Likert five point scale and the responses are given in Table 5.

Null Hypothesis

The opinion regarding awareness on green products of all statements is equal to average level.

Alternate hypothesis

The opinion regarding awareness on green products of all statements is not equal to average level

Table 5 Table showing Mean and Standard Deviation for awareness on eco-friendly products

Construct	Mean	Std. Deviation	t value	P value
Learn about Eco-friendly products through the friends	3.90	.863	7.374	.000
Environment issues are known through the friends	3.86	.700	8.686	.000
Buy environmental products along with friends	3.72	.970	5.250	.000
Share information with my friends	3.70	.974	5.081	.000
Insist my friends to buy green products	3.74	.803	6.514	.000

Source: Primary Data

Since P value is less than .001, the null hypothesis is rejected at 1% level of significance. Hence it is concluded that the opinion regarding all the statements on awareness of green products are not equal to average level. When analyzing the data it shows that the mean value of all the statements is above average level. Based on the result it is concluded that respondents are aware of the green products and they also influence others to buy green products. Apart from buying eco-friendly products, the respondents also agree that they insist their friends and neighbours to buy such products. It again shows that the respondents are concerned and are conscious of the environment and are ready to buy eco-friendly products.

Findings

- Consumers’ beliefs, attitudes on environment consciousness are good. No respondents strongly disagree to any of the NEP statements. When people are aware about environment and believe in nature they must also naturally be aware of the green products.
- The respondents are concerned about their environment and they all strongly agree that they care about their surroundings. They also want to save the environment for their future generations.

- Analysis of the awareness about green products from the acceptance of all statements, it is clear that people are aware about eco-friendly products and are willing to buy those products.

CONCLUSION

Dunlap and Van Liere (1978) indicated that a paradigmatic change has evolved in which the general populace has shown a genuine level of concern as they have realized that ecological problems faced by the world today are the results of societal values, attitudes and beliefs. Based on this idea, Dunlap and associates offered the New Ecological Paradigm (NEP) scale, which is a general set of beliefs or attitudes towards the environment. To confirm this change in thinking, this survey applied the NEP scale among the sample respondents. The analysis revealed a support and a sympathetic attitude towards the environment. To conclude the selected respondents are environmentally concerned and are aware about eco-friendly products. They also admit that they insist others to buy eco-friendly product.

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