



Factors Affect to Consumers Green Purchasing Behavior: A Study on Batticaloa District

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Authors' contributions

This work was carried out in collaboration between both authors. Author HS designed the study, performed the statistical analysis and wrote the first draft of the manuscript. Author GH collected the data and managed the analyses of the study. Both authors read and approved the final manuscript.

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ABSTRACT

Nowadays the environmental issues become a global concern for whole countries. Thus, it could be observed a worldwide rapid ecological awareness; entire community has realized the necessity of environmental protection. At the same time, people are educated to become aware on the environmental protection. A research study revealed that "consumers are becoming more sensitive in their environmental attitudes, preferences, and purchases" [1]. Adopting green consumption behavior is a mechanism encourage to maintain sustainable environment. Meanwhile, both consumers and businesses are concerned about the development of sustainable environment in Sri Lanka. Though they have the willingness to adopt still their green consumption behavior is in the early stage.

This study attempts to identify the major factors affecting consumers' green purchasing behavior in Batticaloa district. A sample of 200 consumers' response attained through convenience sampling method to examine the key factors influencing to green purchasing behavior. The data obtained from the survey were analyzed with reliability test, mean and regression analysis. The findings

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revealed that perception of eco labeling, willingness to pay and green knowledge & eco literacy have a significant impact on green purchasing behavior. At the same time environmental laws & guidelines has no significant impact on green purchasing behavior. Hence, study concluded that perception of eco labeling, willingness to pay and green knowledge & eco literacy are key reasons to promote green purchasing behavior. It will help to policy makers and managers in formulating and implementing strategies to encourage green purchasing among the targeted consumers.

Keywords: Green purchasing; eco labeling; willingness to pay; green knowledge; eco literacy.

1. INTRODUCTION

Most of the countries across the world are commenced to realize the threats of sustainable environment and they have started working together with the intention of minimizing the harmful impact on the environment. Green purchasing behavior is one type of environmentally conscious behavior. Moreover, consumers' interest in environmental awareness in recent years has increased their willingness to green purchasing. 'Green consumption' means generally environmentally responsible consumption where consumers consider the environmental impact of purchasing, using, and disposing of various products, or using various green services [2].

Furthermore, particularly in Sri Lanka like developing country the green products have awareness among Sri Lankan consumers and they are willing to pay something more for green products. At the same time, though number of researches have been done regards green purchasing behaviour in developed countries, still there are very few studies that address green issues in the Sri Lankan context. Particularly, only few studies have dealt with green consumer purchasing behavior in Sri Lanka [3]. Therefore, studying the factors that influence on consumers green purchasing behaviour is important to enhance green purchasing behavior of Sri Lankan consumers, specially Batticaloa district consumers. The aim of this present study is to identify the factors affecting green purchasing behavior. This kind of research can provide valuable insights to green marketers regarding how they can boost their green business.

2. PROBLEM STATEMENT

Consumers are becoming increasingly environmentally conscious [4]. Businesses and consumers are more thoughtful of green marketing now. Meanwhile, at presently,

consumers are more concerned about their shopping behavior and purchase decision, specifically concern about environment friendly consumption. This trend towards environment friendly attitude has developed the concept of green marketing.

Asian studies on green marketing are far less than western countries [5]. And also, Essoussi and Linton state that the process of buying green is still difficult to understand [6]. It clearly shows that still there are research need to be carried out regarding major factors that affecting green consumption behavior and it has to be further focused in future in order to enhance green consumption. Furthermore, Samarasinghe in his studies mentioned that, studies in green purchase intention and behavior are necessarily needed to give the cues among environmentalists, government authorities and marketing planners in the Sri Lankan context to frame the effective green marketing strategies [7].

Therefore, this study attempts to fills the literature gap and empirical gap by identify the major factors affecting consumer green purchasing behavior. The intention of the study is to, once these factors are determined through proper research, necessary actions can be taken to encourage consumers to actually purchase green product. The findings provide further understanding on the factors affect green purchasing behaviour in Batticaloa district by providing answers to the research questions raised in this study.

2.1 Research Questions

1. Identify the factors affect on green purchasing behaviour in Batticaloa.
2. To identify the level of selected factors and green purchasing behavior in Batticaloa.
3. Identify which factors has the greater impact on green purchasing behavior in Batticaloa.

3. RESEARCH LITERATURE AND THEORETICAL FRAMEWORK OF RESEARCH

3.1 Green Products

Consumption of green products have grown as a result of the increasing concerns about global warming, global and local pollution levels, increasing wastage and environmental hazards. Azevedo in his studies proven that the green products have been proven to have reduced harmful side effects, reduced hazards, reduced toxic substances, reduced health issues, improved recyclability, and improved environmental friendliness [8].

3.2 Green Purchasing Behavior

Green purchasing refers to the purchase of environmentally friendly products and avoiding products that harm the environment [9]. Wong stated that green purchasing refers to purchasing products that focus on the production, distribution, consumption and disposal of products that have a less detrimental impact on the environment [10]. And also "Green consumers are conceptualized as goal-oriented individuals and influential market actors who use their purchasing power to bring about social change by taking into account the public environmental consequences of their private consumption" [11] Another study indicates that the positive purchase behaviour of consumers towards the environment is evident in their shopping habits, such as their concern regarding CFC-free products and product recycling [12].

3.3 Perception of Eco Labeling

Eco-labelling informs consumers about the green characteristics of the product and motivates them to purchase green products. [13] A study has shown that awareness of eco-label has positive effect between knowledge of green product and consumer's intention to purchase [14].

Few studies have suggested that reliable information should be provided in a simple and user-friendly way in product labels. This might build consumer trust and encourage more sustainable purchases [15]. However, Studies of Nittala found that consumers do not trust the information provided and remain skeptical towards the manufacturing, labelling and certification procedures of various products. [16]

And also, another study indicate that although the functions of labels are recognized by some consumers but this does not automatically lead them to green purchasing decisions. [17] It is essential to examine why eco label has opposing influence on consumer green purchase behaviour; in order to examine it, the following hypothesis formulated.

H1 - A significant and positive relationship exists between eco-label and green purchasing behavior.

3.4 Environmental Laws and Guidelines

During the past few decades, various environmental regulatory laws and guidelines have been introduced but still there has been deficiency of environmental literacy among people [18].

About eco-laws and guidelines contradictory findings exist in literature. As Lai in his studies concluded that it is not necessary that all consumers who were aware and conscious about eco-laws and guidelines would have green purchase behavior [19]. At the same time, it was concluded in some studies that awareness of environment laws and guidelines have positive impact on green purchasing behavior [20]. With this contradictory conclusion of different studies, the following hypothesis formulated;

H2 - A significant and positive relationship exists between environmental laws and guidelines and green purchasing behavior.

3.5 Green Knowledge and Eco Literacy

Green knowledge and eco literacy developed with two intentions: one is that consumers must understand the general impact of the product on the environment and second, the consumer's knowledge of the product itself and how is it being produced in an environmentally friendly way [21]. Knowledge of environmental issues positively influenced consumer intention and actual purchase of green products [22].

In the study of Ramayah did not find any relation between environmental knowledge of the consumer and green purchase intention [23]. At the same time, it was concluded in some studies that eco-literate people tend to pay premium prices for environment friendly products [24]. Thus the following hypothesis formulated;

H3 - A significant and positive relationship exists between green knowledge and eco literacy and green purchasing behavior.

3.6 Willingness to Pay

Price is one of the main factor for the purchase decision. Generally, consumers consider high prices as a barrier to green consumption. Although green products such as organic products are generally perceived as being more expensive than conventional goods [25].

A study revealed that price does not play a significant role in purchasing eco-labeled goods or green foods, as consumers with environmental concerns are less sensitive to price [26]. If consumers agree to pay a premium price because of green products attributes, then price is no longer a barrier to the green purchasing behavior. Hence, willingness to pay for green product is considered as a critical predictor of green purchasing, *H4* is proposed as follows:

H4 - A significant and positive relationship exists between willingness to pay and green purchasing behavior.

In general, all purchasing actions have ethical, resource, knowledge and community impact consequences. According to Young et al, when consumers choose to adopt a sustainable lifestyle, their decision-making process becomes increasingly complex [27]. There are different factors influence on consumer green purchase behavior few research studies identified certain factors as major influencing factors, meanwhile some other studies concluded the same factors as insignificant factor. Thus, with the contradictory findings of previous research, based on the literature review, this study attempt to confirm the major influencing factor on green consumption behavior among consumers of Batticaloa district.

4. METHODOLOGY

The descriptive research design was adopted for the study. The type of research is deductive and variables are measured with quantitative analysis. A structured questionnaire was used which employed with multiple-choice questions and likert scale questions. Under the convenience sample", 200 properly filled online questionnaires were considered for the analysis

and the respondents were selected from the Batticaloa district. This sample size was considered adequate based on Cooper and Schindler, [28] proposition that statistically, in order for generalization to take place, a sample of at least 30 must exist and also in their study they took 200 as sample size.

Survey considered the respondents who are above 18 years and familiar with the concept green purchase behavior. The reason is individuals above this age and are familiar with purchasing of green products emphasize right decision making. A total of 30 questionnaires were issued among university students and analysed the results of pilot study and it confirmed the suitability of the used instruments. The data analysis for this research done by using the statistical package SPSS. The results were presented below.

5. RESULTS AND DISCUSSION

The data presentation and analysis are presented with frequency distribution, mean, and standard deviation and regression analysis with research variable in order to achieve formulated research objective. Further the first research objective was attained by proper literature analysis.

5.1 Sample Profile

Descriptive statistical analysis was run on respondents' demographic variables. The results are shown in Table 1.

Table 1 reflects the demographic characteristics of respondents. Among the selected sample of 200, majority of the respondents are male (65.5%) and the female respondents percentage is 34.5%. while, regarding their age, it can be concluded that there is almost more than 70% of respondents age distribution fall between 18-40. The sample is an educated one, since 33.5% of the respondents graduated high school and 32.5% have a graduate and post graduate degree.

A small percentage of 17.5% of the respondents have a less income, below 30,000Rs. Regarding aware of green consumption most of the respondents are well familiar with the green marketing around 76.5% and the remaining little known about the concept of green consumption.

Table 1. Summary of demographic information

	Demographic profile	Frequencies	Percentages (%)
Gender	Male	131	65.5
	Female	69	34.5
Age groups	18-30	80	40
	31-40	62	31
	41-50	49	24.5
	51-60	5	2.5
	Above 60	4	2
Education	Primary school	22	11
	Secondary School	46	23
	High School	67	33.5
	Graduation	48	24
	Post-graduation	17	8.5
Monthly Income	Less than 30,000	35	17.5
	30001-50000	77	38.5
	50001-70000	50	25
	70001-90000	22	11
Above 90000		16	8
Aware of green consumption	Yes	153	76.5
	A little	47	23.5

5.2 Descriptive Statistics of Study Variables

The descriptive data including, reliability, mean, and standard deviation of the study variables was obtained and shown in following Table 2.

All selected factors were tested for reliability analysis. The Cronbach’s Alpha coefficient value for all attributes above .7, which indicated strong internal consistency among the attributes. Therefore, the variables used in this study were concluded as reliable. Sekaran posits that the result of reliability tests below 0.60 is considered to be poor, whereas if it is greater than 0.60 it

can be acceptable and if the results of reliability show range between 0.80, it is considered a good result [29].

According to the results perception of eco labeling, willingness to pay and green purchasing behaviour found to be high level. It shows that consumers in Batticaloa district have high level of attention toward these factors.

At the same time, environmental laws and guidelines, green knowledge and eco literacy found to be moderate Level. To conclude, customers in Batticaloa have only moderate level of attention regarding these factors.

Table 2. Reliability

Variable	No. of statements	Cronbach’s coefficient
Perception of Eco labeling	4	.817
Environmental laws and guidelines	3	.745
Green Knowledge and eco literacy	4	.712
Willingness to pay	4	.766
Green Purchase Behaviour	6	.804

Table 3. Level of variables

Dimension	Mean	S.D	Decision attribute
Perception of Eco labeling	3.632	.858	High Level
Environmental laws & guidelines	3.396	.731	Moderate Level
Green Knowledge & eco literacy	3.261	.839	Moderate Level
Willingness to pay	3.521	.850	High Level
Green Purchasing Behaviour	3.587	.988	High Level

Table 4. Regression predicting green purchasing behaviour with selected factors

Model	Coefficients ^a			
	Unstandardized coefficients		t	Sig.
	B	Std. error		
1 (Constant)	-.620	.144	-1.306	.000
Perception of Eco labeling	.431	.062	6.905	.000
Environmental laws & guidelines	.362	.058	6.252	.205
Green Knowledge & eco literacy	.219	.054	4.072	.000
Willingness to pay	.228	.053	4.278	.000

A. Dependent variable: Green purchasing behaviour

5.3 Regression Analysis

In order to achieve the third research objective, the hypotheses stated in the literature review were created to determine whether green purchasing behaviour can be influenced by the selected factors. Thus, a Multiple Linear Regression Analysis was performed between independent variables as; perception of eco labeling, environmental laws & guidelines, willingness to pay and green knowledge & eco literacy on dependent variable, green purchasing behaviour. And the following results were obtained.

The coefficient of determination $R^2 = 0.627$, means that 62.7% of the variability of green purchasing behaviour is explained by the selected factors. Furthermore, among the selected factors; perception of eco labeling, willingness to pay and green knowledge & eco literacy have significant influence ($p < 0.05$) on green purchasing behaviour. This indicates that the alternative hypotheses (H_1 , H_3 and H_4) are appropriate and can be accepted.

Analyzing the coefficients, the variables that present the highest relative contributions to explain green purchasing behaviour are firstly perception of eco labeling, followed by willingness to pay and green knowledge & eco literacy respectively. This finding align with the findings of Hines et al. who confirmed knowledge was the most significant type when predicting environmental action [30].

In contrast, according to the analysis, environmental laws & guidelines has no significant influence on the green purchasing behavior among Batticaloa respondents and the formulated hypothesis H_2 rejected as $p > 0.05$. It is further validated by a previous research study, it was confirmed eco-literacy has no impact on the consumers' green purchase intentions [31]. It is not necessary that consumers who are

ecologically well aware with laws & guidelines, will more likely to engage in pro-environmental behavior.

6. CONCLUSIONS AND RECOMMENDATION

The main objective of this study is to explore influence of green marketing tools (perception of eco labeling, environmental laws & guidelines, willingness to pay and green knowledge & eco literacy) on green purchasing behavior. An investigation on the coefficients of each factors shows perception of eco labeling, willingness to pay and green knowledge & eco literacy as the positively significant variable related to green purchasing behavior. Therefore, it is evident that, without considering the factors of eco labeling, customers willingness to pay and green knowledge & eco literacy, it is very difficult to convince them to make green purchase decisions.

It is clear that awareness of eco labeling among Batticaloa consumers and their attention to buy environmentally branded products were influenced by their perception in the benefits of green products purchasing behavior. And also further study confirmed that consciousness of presence of eco labels as a measure of green consumption behaviour [32]. Therefore in order to enhance the green consumption, government can arrange campaigns to promote public awareness of eco-labels, as this study proven that eco labels can employ a significant influence in green purchase behavior of consumers.

On the other hand study revealed that consumers willing to pay has positive effect on Batticaloa consumers and their attention to buy environmentally branded products were influenced by their perception in the benefits of green products purchasing behavior. Therefore, to induce greener purchasing behavior among consumers, manufacturers and retailers should reconsider their pricing strategies for green

products. Delivering green products at a competitive price will encourage the consumers to choose green products instead of a conventional products. The study further supported by the findings of Bezawada and Pauwels found that lowering regular prices is an effective tool for prompting consumers to buy green [33].

Besides the pricing programs the enhance the knowledge of the green consumer is another important factor as the study confirmed green knowledge & eco literacy has significant influence on the green purchase behavior. Thus, marketers are advised to develop strategies specifically targeted the segment to enhance green knowledge & eco literacy. Apart from this consumers are obtain the knowledge through the mass media and advertisements. It is an opportunity for new and existing green businesses to market themselves through mass media. And also, businesses can emphasize on ecological packaging in their promotional messages to target their green consumers.

Thus, considering all, perception of eco labeling, willingness to pay and green knowledge & eco literacy seem to be important variables as they influence the green purchase behaviour of consumers towards green products. For green marketers, therefore, the findings from the study help develop marketing strategy that persuades consumers to enhance green consumption behaviour. It is recommended that marketers, and policymakers need to understand and promote the factors affecting green purchase behavior.

7. LIMITATION

Certain limitations were identified in this study with some suggestions for future studies; study was limited to consumers of Batticaloa (one of the District of Sri Lanka) and did not cover all the districts in Sri Lanka. In future studies, it would be ideal to cover all the districts in Sri Lanka to generalize the study.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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