CUSTOMER GREEN PRODUCTS BUYING ATTITUDE TOWARDS CORPORATE GREEN MARKETING AND CORPORATE SOCIAL RESPONSIBILITY IMPLEMENTATION: A DISCRIMINANT FUNCTION ANALYSIS

Doman GNOUFOUGOU
Université de Kara,
TOGO

ABSTRACT:
In the present day world, environmental deterioration and global problems have together paved the way for the emergence of corporate green marketing and Corporate Social Responsibility (CSR). While consumers become more aware about to make their surroundings more safer, healthier to live in and become more conscious about their purchasing in respect with all the products that they are used in their day to day life; there are many industries which are become more conscious about to be environmentally safe and ecofriendly with respect to their products utility by including green marketing and Corporate Social Responsibility in their business strategies. Corporate green marketing and CSR should not neglect the economic aspect of marketing. This paper suggested assessing the customer green products buying attitude towards corporate green marketing and CSR implementations. It is used a survey methodology to collect data through a combination of structured questionnaires and it is employed the Discriminant Function Analysis to analyze the data. Findings of the traditional statistical technique used for differentiating groups and concluded that variables such as age, marital status, family monthly savings and type of purchase have significantly discriminate into low user and high user. Marketers need to understand the implications of green marketing and CSR to enhance their product's performance and strengthen their customer's loyalty and command a higher price

KEYWORDS: Green Product, Green Marketing, CSR, Customer Buying Attitude, Discriminant Function Analysis

1. INTRODUCTION:
These days, marketing strategies have gained greater social significance. For the modern marketer, environmental deterioration and global problems have together paved the way for the emergence of green marketing and Corporate Social Responsibility (CSR). Then, green marketing has become the matter of prime importance. In the business world, the companies are using the concept of
green marketing for profit and the outcome of green policies is due to social responsibility. While consumers become more aware about to make their surroundings more safer, healthier to live in and become more conscious about their purchasing in respect with all the products that they are used in their day to day life; there are many industries which are become more conscious about to be environmentally safe and eco-friendly with respect to their products utility by including green marketing and Corporate Social Responsibility in their business strategies. Corporate green marketing and CSR should not neglect the economic aspect of marketing.

1.1 RESEARCH QUESTION:
This exploratory study is a niche attempt to find the level of acceptability and reach of green products among consumers in the market. Hence, it is felt necessary by the researcher that in order to promote the products in the market, the manufacturer should be able to make their products distinct from their competitors’ products, not only in quality but also making them eco-friendly. And the consumers become more conscious about their purchasing in respect with all the products that they are used in their day to day life. So that, the research question to be addressed in this study is: what is the direct effect of customer green products buying attitude on corporate green marketing and CSR implementation?

1.2 RESEARCH OBJECTIVE:
Based on this principal issue, the research objective is to explore the green products buying behavior of the respondents towards corporate implementation of green marketing and social responsibility

1.3 RESEARCH HYPOTHESIS:
H0: There is no significant difference between the demographic variables of the respondents’ green products buying behavior towards corporate green marketing and social responsibility implementation

2. LITERATURE REVIEW:
Many governments around the world have become so concerned about green activities that they have attempted to regulate them. Society becomes more concerned with the natural environment and businesses have begun to modify their behavior in an attempt to address society's "new" concerns. Some businesses and few academic disciplines have integrated green issues into their literature and have been quick to accept concepts like green products, green marketing and corporate social responsibility (CSR).
2.1 CONCEPTS DEFINITIONS:

GREEN PRODUCTS:
The terms “green” or “sustainable” often refer to products, services or practices that allow for economic development while conserving for future generations. Green products generally use eco-friendly materials and energy-efficient means of production, thereby causing less or no detrimental impact on the environment. Eco-friendly products do not contain harmful elements that might pollute the ecosystem and the production process of which does not result to any toxic by-products or negative externalities. Moreover, green products are usually biodegradable and made from recyclable materials. They also conserve energy by promoting renewable or natural energy sources and low-maintenance energy requirements.

GREEN MARKETING:
Green 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). It covers the overall brand of marketing activities undertaken by companies in a manner that they promote manufacture of products which have a positive impact on environment or alternatively reduce negative impact on the environment. Green marketing is the process of selling products or services based on their environmental benefits. Such products or services may be produced and packaged in an environmentally friendly way. According to Uydaci (2002), Green marketing serves two purposes: to develop goods that can appeal to the consumer, reasonably affordable prices and environment-friendly products causing minimal damage and reflects an image of high quality, environmental sensitivity and hence production of products compatible with environment. According to the American Marketing Association, “Green Marketing” is defined as the development and marketing of products designed to minimize negative effects on the physical environment or to enhance its quality. It is the marketing of products that are presumed to be environmentally safe and are incorporated a broad range of activities, including product modification, changes to the production process, packaging changes, as well as modifying advertising. It is referred to the process of selling products and/or services based on their environmental benefits. Then green marketing offers business bottom line incentives and top line growth possibilities. While modification of business or production processes may involve start-up costs, it will save money in the long term. Companies that develop new and improved products and services with environmental impacts in mind give themselves access to new markets, substantially increase profits and enjoy competitive advantages over those marketing non-environmentally responsible alternatives. Also, companies that develop new and improved products and services with environment inputs in mind give themselves access to
new markets, increase their profit sustainability, and enjoy a competitive advantage over the companies which are not concerned for the environment.

CORPORATE SOCIAL RESPONSIBILITY (CSR):

Corporate Social Responsibility (CSR) is a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis. In their most recent definition, the European Commission (2011) explains CSR as “the responsibility of enterprises for their impacts on society”. CSR firm should strive to make a profit, be ethical, obey the law and be a good corporate citizen” (Carroll, 1991). Carroll proposed other responsibilities in the following decreasing order of importance, after economic: legal, ethical and philanthropic. This concept by Carroll (1979) suggests that a business should follow four components: economic responsibility, ethical responsibility, philanthropic and legal responsibility, (Bhattacharya and Sen, 2004; Carroll, 1995).

Many firms are beginning to realize that the results in environmental issues are being integrated into the firm’s corporate culture. Firms in this situation can take two perspectives: 1) they can use the fact that they are environmentally responsible as a marketing tool; or 2) they can become responsible without promoting this fact.

Customer green products buying towards implementation of corporate green marketing and Corporate Social Responsibility (CSR)

Marketers may choose to enhance the consumers’ consciousness of environmental problems by using marketing ploys to get them involved in social charities which motivate the consumers’ to move from conventional products to eco-friendly products (Golkanda, 2013). According to Ankit and Mayur (2013), most marketers use green advertising with pollution free messages to attract consumers’ attention; it can enhance their knowledge of the products and ecological issues.

In fact the perception of consumers is based on their rational, emotional and individual judgments towards their willingness to purchase a product in the context of the concept CSR (Local Community, Environmental Sustainability, and Green Product).

Indeed, the firms can increase their corporate eco-centric image and it drives the consumers’ perception towards the firm. Substantially, the firms have generated the revenue and developed a new access to international markets; it can increase the competitive advantages of the firms in order to achieve the stable position of the firms.

In order to achieve the firm’s mission and vision green marketing and CSR implementation are useful strategies that are used by firms to increase competitive advantages and stand a chance of gaining the satisfaction of consumers ‘green product. Green marketing and CSR implementation have
various benefits to firms in terms of increasing the sustainable environmental benefits and to increase the awareness of brand image of the firm.

CONCEPTUAL FRAMEWORK:

Based on the literature review, the preliminary theoretical model, that is shown the ascertain relationship between customers green products buying behavior towards corporate green marketing and social responsibility implementation is conceptualized in figure 1 below.

**Figure 1: Conceptual framework model**

Source: Conceptualized by author

3. RESEARCH METHODOLOGY:

3.1 SAMPLE SIZE:

The research design chosen for this study is an analytical research design. The main objective is to explore the relationship between respondents green products buying behavior towards corporate implementation of corporate green marketing and social responsibility. The study is based on both primary data. The primary data were collected with the help of a questionnaire designed for the purpose. Questionnaires have dealt with demographic details of the respondents. It were administered and distributed to a sample population of 600. Then, based on a level of precision of 5% (e = 0.05), and a 95% confidence level and a population size of 600 (N= 600), the simplified formula to calculate sample sizes according to Yamane (1987:886) is assumed in the equation follow:
Therefore, for a sample population of 1000, the required sample size is 308 and should be appropriate for the analysis that is planned. The data was collected and compiled by using the random sampling technique.

3.2 ANALYSIS METHODS:

To analyses the data this study used an analytical research design as the Discriminant Function Analysis (DFA). In fact, the Discriminant Function Analysis (DFA) was the traditional statistical technique used for differentiating groups (categorical dependent variable) when the independent variables were quantitative. It involved classification problem also, to ascertain the efficiency of the Discriminant Function Analysis (DFA), all the variables which satisfy the entry and removal criteria were entered into the function.

Normally the criteria used to select the variables for inclusion in the function is minimum F to enter into the equation (i.e.) F statistic calculated for the qualified variable to enter into the function is fixed as ≥ 1.

Similarly any variable entered in the equation will be removed from the function if F statistic for the variable calculated is < 1.

In this study area 308 respondents were divided into two groups .i.e., low level of opinion about respondents green products buying behavior and the high level of opinion about respondents green products buying behavior.

The two groups are defined as

- Group 1 - Low level
- Group 2 - High level

The difference of opinion of the respondents in one group from the other is studied with the help of Discriminant Function Analysis (DFA).
For the purpose of the study, the following variables of each group were selected like: Age, Gender, Marital Status, Family monthly income and savings, Type of purchase and duration of usage of green products.

3.3 RELIABILITY ANALYSIS:

The Cronbach alpha values of the variables under study are highlighted in the Table 1 below. The reliability coefficient (Cronbach Alpha) of the variables exceeded the minimum acceptable level of 0.70 (Nunnally & Bernstein, 1994).

Table 1: Reliability statistics of the study variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.77</td>
</tr>
<tr>
<td>Gender</td>
<td>0.71</td>
</tr>
<tr>
<td>Marital Status</td>
<td>0.78</td>
</tr>
<tr>
<td>Family monthly income and savings</td>
<td>0.88</td>
</tr>
<tr>
<td>Type of purchase and duration of usage of green products</td>
<td>0.83</td>
</tr>
</tbody>
</table>

Source: developed by author

Table 1 shows reliability statistics of the Study Variables. In terms of the internal consistency reliabilities of the study variables, the results show that Cronbach’s alpha coefficients ranged of the study between 0.71 and 0.88, which are within the minimum acceptable value of .70

4. DATA ANALYSIS:

H0: There is no significant difference between the demographic variables of the respondents green products buying behavior towards corporate green marketing and social responsibility implementation
Table 2: The mean and standard deviation of each group and Discriminant Function estimation

<table>
<thead>
<tr>
<th>No</th>
<th>FACTORS</th>
<th>GROUP 1 LOW LEVEL</th>
<th>GROUP 2 HIGH LEVEL</th>
<th>Discriminant Function estimation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>1</td>
<td>Age</td>
<td>2.26</td>
<td>.853</td>
<td>2.24</td>
</tr>
<tr>
<td>2</td>
<td>Gender</td>
<td>1.44</td>
<td>.566</td>
<td>1.58</td>
</tr>
<tr>
<td>3</td>
<td>Marital Status</td>
<td>2.20</td>
<td>.815</td>
<td>2.49</td>
</tr>
<tr>
<td>4</td>
<td>Family monthly income and savings</td>
<td>2.80</td>
<td>.985</td>
<td>2.66</td>
</tr>
<tr>
<td>5</td>
<td>Type of purchase and duration of usage of green products</td>
<td>1.99</td>
<td>.665</td>
<td>2.04</td>
</tr>
</tbody>
</table>

*Significant at 5% level

In this table, the mean and standard deviation of the entire samples for these groups are given for each variable considered in the analysis. Then, the overall stepwise Discriminant Function Analysis (DFA) results that are given in the following table after all significant discriminators have been included in the estimation of discriminated function. Towards this table, variables such as marital status are significant at one per cent significance level and followed by other variables like Family’s monthly savings and Type of purchase. All the variables are significant discriminators based on their Wilk’s lambda and F-value.

4.1 CANONICAL DISCRIMINANT FUNCTION:

The multivariate aspect of this model is given in the following table.

Table 3: The multivariate aspect (Between Low and High Groups) of green products Buying Behavior

<table>
<thead>
<tr>
<th>Canonical correlation</th>
<th>Wilk Lambda</th>
<th>Chi-square</th>
<th>D.F</th>
<th>p-value</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.327</td>
<td>.883</td>
<td>57.069</td>
<td>5</td>
<td>.000**</td>
<td>Significant</td>
</tr>
</tbody>
</table>

Source: developed by author
The canonical correlation in the discriminant group can be accounted for by this model, Wilks lamda and chi square value suggest that Discriminant Function is significant at one per cent (1%) level. The variables given above are identified finally by the Discriminant Function Analysis as the eligible discriminating variables. Based on the selected variables the Canonical Discriminant Function Coefficients and Relative Discriminating (Between Low Level Group and High Level Group) are calculated and the equation estimation are given in the table below

**Table -4: Canonical Discriminant Function Coefficients and Relative Discriminating (Between Low Level Group and High Level Group)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Group I Mean XL</th>
<th>Group II Mean X2</th>
<th>Unstandardised Coefficient</th>
<th>Variables</th>
<th>Standardised Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>2.26</td>
<td>2.24</td>
<td>.557</td>
<td>Age</td>
<td>.557</td>
</tr>
<tr>
<td>Gender</td>
<td>1.44</td>
<td>1.58</td>
<td>1.720</td>
<td>Gender</td>
<td>1.720</td>
</tr>
<tr>
<td>Marital Status</td>
<td>2.20</td>
<td>2.49</td>
<td>1.420</td>
<td>Marital Status</td>
<td>1.420</td>
</tr>
<tr>
<td>Family monthly income and savings</td>
<td>2.80</td>
<td>2.66</td>
<td>1.659</td>
<td>Family monthly income and savings</td>
<td>1.659</td>
</tr>
<tr>
<td>Type of purchase and duration of usage of green products</td>
<td>1.99</td>
<td>2.04</td>
<td>-.328</td>
<td>Type of purchase and duration of usage of green products</td>
<td>-.328</td>
</tr>
<tr>
<td>Constant</td>
<td></td>
<td></td>
<td></td>
<td>Constant</td>
<td>- 5.880</td>
</tr>
</tbody>
</table>

Source: developed by author

The following equation is estimated:

\[ Z = -5.880 + .557 \text{(Age)} + 1.720 \text{(Gender)} + 1.420 \text{(Marital Status)} + 1.169 \text{(Family monthly income and savings)} + (-.328)\text{(Type of purchase and duration of usage of green products)} \]

Source: developed by author
Using these Discriminant Function coefficients, variables discriminating scores for these two groups also called group centroids or group means are therefore found out.

For low level user (Z1) = 150

For High level user (Z2) = 158

Discriminating factor is the weighted average of Z1, Z2

\[
Z = \frac{150 \cdot (Z1) + 158 \cdot (Z2)}{150 + 158}
\]

It is represented diagrammatically (Functions at Group Centroids)

To classify any respondent as to low or high user the Z score for the respondent is found out by using the equation.

Then, if the score found out for any respondent is Z0 and if the value is > Z (i.e. Z0 > Z) then it is classified into high user and if Z0<Z then (i.e. Z0<Z) it is classified into low user.

Table –6: Classification Results (Between Low Level Group and High Level Group) of Buying Behaviour

<table>
<thead>
<tr>
<th>Actual group</th>
<th>No. of cases</th>
<th>Predicted group membership</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Group I</td>
</tr>
<tr>
<td>Group I</td>
<td>150</td>
<td>121</td>
</tr>
<tr>
<td>Group II</td>
<td>158</td>
<td>118</td>
</tr>
</tbody>
</table>

Source: developed by author

The above table 6 gives the results of the classification. It is found that the Discriminant Function Analysis was applied to the respondents on low user and high user. The following factors significantly discriminate the two users. They are Age, Marital Status, Family monthly savings and Type of purchase (1 per cent level).
5. CONCLUSION:
The study focuses on examining the customer green products buying behavior towards corporate green marketing and CSR implementation. Green marketing strategy is one of the crucial strategies that cannot be left out by competitive organizations. Social responsibility has become the drive of any successful organization in the global market. It can be concluded that, product strategy, pricing strategy, promotion strategy and distribution strategy of any company should emphasize on green marketing practices. Based on the results findings of the traditional statistical technique used for differentiating groups and concluded that variables such as age, marital status, family monthly savings and type of purchase have significantly discriminate into low user and high user. Marketers need to understand the implications of green marketing and CSR to enhance their product’s performance and strengthen their customer’s loyalty and command a higher price.

6. REFERENCES: