

# Portugal Case Study: Consumer perception of green companies

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The purpose of this paper is to articulate a consumer perception framework of environmental factors, considering a range of factors that affect businesses. By aiming to determine the antecedents of what consumers perceive as more environmentally preferable within corporations, it attempts to establish how green companies should communicate environmental considerations. The data was analysed using both descriptive measures and partial least squares to identify and validate the items contributing to each component in the model. *All measures taken by the companies seem to be seen in the positive light towards perception of green companies by the participants. It was found that consumers believe that the government should contribute more towards environmental safety and provide more assistance for safeguarding the environment, whilst economic growth should be encouraged taking precaution not to damage the environment, companies should reduce pollution rather than think of increasing profits. Consistent with prior research,, consumers perceive that well known brand as always as safe products to buy, and that these contribute positively to overall to the perception of green companies. They will not purchase green brands if lower in quality and higher in price.*

Field of Research: Marketing

## Introduction

Globally, research on environmental matters has experienced many changes, reflecting the corresponding fluctuation in consumer's environmental concerns. Survey reports on environmental problems echo consumers becoming increasingly aware of the importance of environmental issues (Roberts, 1996; Straughan and Roberts, 1999). \_\_\_\_\_

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Despite this evidence to suggest that consumers are increasingly concerned about the environment, the concern for environmental issues has not been able to establish a proper balance between economic development and the environment.

Though, environmental policies have attempted to align greener corporations that are encountering major environmental issues (Hawken et al 1999, Kaufman 1999, Ottman 1998), the thrust to buy green products ventures from consumers. What are the main drivers behind this quest? The purpose of this paper is to articulate a consumer perception framework of environmental factors, considering a range of factors that affect businesses.

It attempts to provide businesses and environmental policy makers a reasonable understanding of consumer perceptions. By aiming to determine the antecedents of what consumers perceive as more environmentally preferable within corporations, it will attempt to establish how green companies should communicate environmental considerations. The main objective is not to identify the “greenest” corporation, but rather to extract an understanding of environmental considerations that consumers have about a green corporation. In this investigation, we examine an under explored aspect of Portuguese consumer perceptions on green companies. This study is intended to reveal appropriate personal and contextual factors that communicate consumer perceptions of environmental oriented corporations and to identify what is it that consumers regard as critical factors that bolster the ethos of green corporations. This would assist in significant latent potential in emerging green companies. Identification of these factors that promote its growth is crucial in initializing auxiliary developments

## Background

Since the 1990s, Portugal economic growth has been increasing with considerable investment in their environmental infrastructure to encourage environmentally sound management practices (OECD, 2008). There have been high standards set by the European Union (EU) environmental policies, and Portugal continues to utilise EU funds to congregate with other EU members in their strife towards environmental protection.

Eurobarometer's survey conducted in 2008 that measured the opinions, attitudes and behaviour of Europeans towards the environment was carried out by the Environment Directorate-General. There were 26,730 respondents in the 27 Member States of the European Union were interviewed at their homes in their respective national languages of which 1,000 were Portuguese consumers.

This research found that in comparison with other EU countries, public concerns about water and air pollution are stronger. In addition, akin to other EU countries, consumers have a more favourable attitude towards environmentally friendly products even if they are slightly more expensive. The higher the education level, the greater is the likelihood to buy

environmentally friendly products. Regulation such as heavier fines are preferred by Portuguese consumers to combat pollution, they would prefer more information on environmental issues and are less likely than average Europeans to believe that providing higher financial incentives to environmentally friendly industries, would be a successful resolution to environmental problems. There is also a clear indication that majority of Portuguese consumers feel that existing labels allow them to distinguish environmentally friendly products (Eurobarometer Report, 2008).

The above analysis gives an insight of Portugal consumers. It is evident that consumers in Portugal can compel market forces towards producing green products and steer towards companies becoming greener. Although, there have been diverse views on environmentally friendly products (Kalafatis et al., 1999), survey reports indicate that Portuguese consumers have favourable attitude towards environmentally friendly products even if they are slightly more expensive. Yet it is also likely that many consumers would consider selecting environmentally responsive alternatives given their availability at reasonably competitive prices (Cleveland, Kalamas, Laroche, 2005). In a similar situation, although some consumers have no reservations of paying taxes to decrease pollution, they also believe that corporations should assume environmental responsibility (Cleveland, Kalamas, Laroche, 2005; D'Souza, Taghian et al, 2005). This is contrary to early research conducted globally, that had identified companies are not environmentally responsible and consumers' distrust corporate environmental advertising and product labelling (Prendergast and Thompson, 1997; Shrum et al., 1995).

Since the 1990s, consumer's concerns for the environment are escalating (Berger & Corbin, 1992; Lord, 1994; Schwartz & Miller, 1991), but little evidence exists on consumer perceptions of green companies. Despite strong interest in this area, there is a dearth of knowledge on consumer perceptions of green corporations. Evaluating consumer perception at an individual level may assist to understand the concept behind environmentalism and the trade off between other product attributes.

## Consumer perceptions

Perception is said to be a method by which physical sensations are selected, organized and interpreted to provide some meaning. Consumer's perception of the firm's corporate strategies toward environmental issues is expected to contribute to the formation of the overall perception about green products (D'Souza, Taghian et al, 2005). The environmental strategies adopted by a company demonstrate the company's green reputation by way of being socially responsible and responsive to environmental concerns.

Firms don't regard environmental protection as a contentious issue, competitive and successful multinational corporations in fact recognise it as an accepted corporate strategy (D'Souza, Taghian et al. 2005). Continued consumer's expectations and demand to safeguard the environment has made the focus on environment as an important issue for firms. Firms are often faced with the challenge to balance their consumers' environmental

concerns with their cash flow, profitability (Berry, and Rondinelli, 1998), and find innovative measures to sustainable corporate environmental issues. No doubt, they also have to manage their firm's resources towards environmental impacts effectively and efficiently, and restructure their business and their market offerings around environmental issues.

Researchers have suggested that 'consumers increasingly make purchases on the basis of a firm's role in society (Forte and Lamont, 1998). Given that, firms are also responsive to stakeholder demands for maintaining a green reputation. If this is the case, then corporate perception should be explored by virtue of consumer's environmental responsiveness.

## Methodology:

To test and quantify the variables and the different components of the model of customers' perception about green companies in Portugal, a descriptive research was designed and implemented. Students from the MBA department were selected from a University in Portugal. The data were collected using a structured questionnaire administered by an instructor. There was a useable response rate of 169 questionnaires obtained and was used for data analysis.

The research instrument used in this study was structured based on prior qualitative research and translated into Portuguese to be administered (D'Souza, Taghian et al, 2005). It was pre-tested and modified to include variables contributing to the customers' perception on seven different dimensions. The resulting instrument included items to measure customers' perception on: government responsibility in regulating and protecting the environment. Functionality of product labels, perceptions of corporate responsibilities, product packaging, product ingredients not being harmful to wildlife and not tested on animals, as well as customers' purchase intentions if products were somewhat higher in price and somewhat lower in quality in comparison to alternative products. All measurements were subjective assessments by the respondents using a seven-point Likert-type scale (Wrenn 1997). The selected sample's main characteristics were males (80%), the 18 to 34 year olds comprised of around 14% and around 86% fell into above 35-39 age group category. Around 18% were young families, mature families and middle aged families comprised to around 31%. While 23% fell into other category, there were 13% unemployed, 15% were self employed, 16% part time, 11 % full time and 22% student population.

The data was analysed using both descriptive measures and partial least squares to identify and validate the items contributing to each component in the model. Partial Least Squares (PLS) regression is said to be a multivariate data analysis technique which is used to relate several dependent response (Y) variables to several predictor explanatory (X) variables. It will attempt to identify the underlying factors. All factors were examined for their construct validity and internal reliability.

## Analytical Techniques

The research model was tested with structural equation modeling (SEM) using the partial least squares (PLS) procedure (Hulland, 1999; Ranganathan, Dhaliwal, and Teo, 2004). PLS is said to be a second-generation modelling technique that simultaneously assesses the quality of measurement of research constructs and the interrelationships between the constructs (Ranganathan et al., 2004, p. 19). The underlying principle behind this methodology is because besides attempting to predict consumer perceptions of green corporations, it consists of a small sample size and PLS is a technique appropriate for small sample size (Cassel, Hackl & Westlung, 1999).

PLS provides an explanation between the relationships within a model (Fornell and Bookstein, 1982) and assesses the relationships between constructs, and between the constructs and their measurement items, so that the error variance is reduced (Ranganathan et al., 2004). In addition, it facilitates a simultaneous analysis of whether the hypothesized relationships at the theoretical level are empirically confirmed (Khalifa and Liu, 2003). Therefore, PLS is preferred for analyses of exploratory models where explanation of the construct interrelationship is desired (Ranganathan et al., 2004).

## Item Reliability

For individual item reliability Hulland (1999, p. 198) recommends that “a rule of thumb employed by many researchers is to accept items loading of 0.7 or more, which implies that there is more shared variance between the construct and its measure than error variance.” As shown in Table 1, the loadings of the first-order factors ranged from .5739 to .8629, indicating acceptable correlations among the first-order factors, because items with loadings of less than 0.4 should be dropped (Hulland, 1999).

The loadings for “Company Greenness” and its antecedent “Environment” was negative and significant, while both other antecedents “Safety of Products” and “Labeling of Products” were positive and significant.

## Convergent Validity

The traditional reliability measure of Cronbach's  $\alpha$  assumes equal weight for the items measuring the construct and is influenced by the number of items in the construct (Ranganathan et al., 2004). In PLS, however, composite reliability relies on actual readings to compute the factor scores and is a better indicator of internal consistency. Similarly, Fornell and Larcker (1981) argue

that composite reliability is superior to Cronback's alpha since it uses the items loadings obtained within the nomological network (or causal model). All composite reliability estimates ranged from .0.741 to .834.

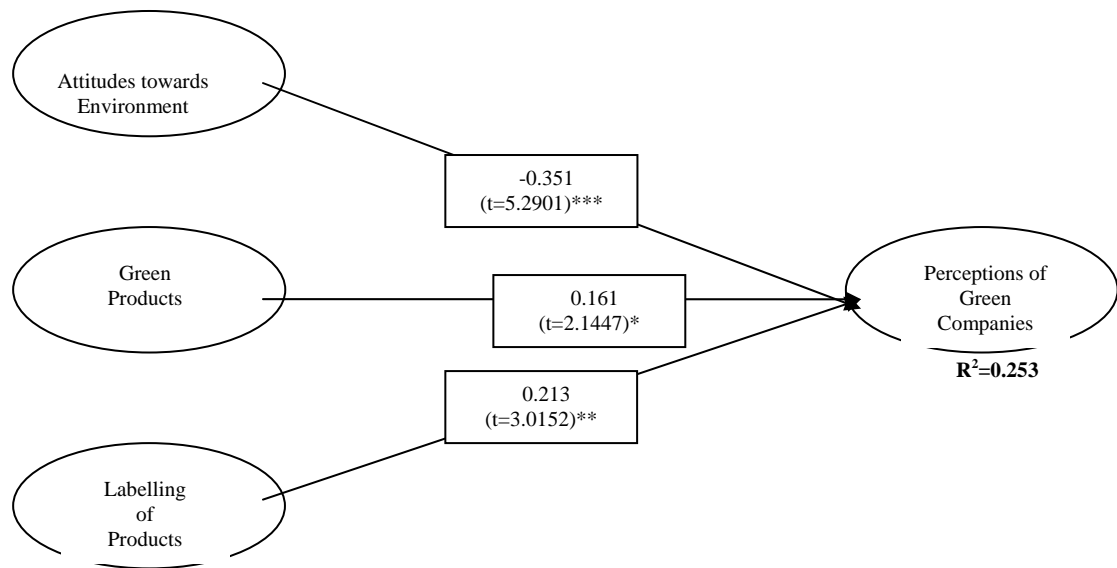
## Discriminant Validity

To assess discriminant validity, Fornell and Lacker (1981) suggest the use of Average Variance Extracted. The AVE for a construct reflects the ratio of the construct's variance to the total amount of variance among the items. Apart from mobile transmission, the AVE values for each construct were above the limit of 0.50 recommended by Fornell and Larcker (1981). All AVE estimates ranged from .518 to .715.

## Findings and results:

This section presents the empirical results regarding the direct influence on "Perception of Green Companies" factors in relation to its antecedents of "Attitudes towards the Environment", "Green Products" and "Labelling of Products" All analysis in this section utilizes the Partial least squares (PLS) approach. Attitudes towards the environment measured environmental risks, government support towards the environment, industry growth and regulation. With regards to environmental products, the well known brand, price and quality were examined. The characteristics of product labels that are used to distinguish a green brand was examined in the context of whether consumers do read environmental labels, satisfaction of information on labels, past experience and types of labels required.

The size and significance of the paths in the model were tested by using bootstrapping to estimate parameters, standard error, and t-values (Monczka, Trent, & Handfield, 1998). PLS does not generate an overall goodness-of-fit index, the primary assessment of validity is by examining  $R^2$  (Chwelos et al., 2001). The resulting PLS structural model, along with the path coefficients and their significant values, are shown in Figure 1.



(\*\*\*\* =  $p < 0.001$ , \*\*\* =  $p < 0.010$ , \*\* =  $p < 0.050$ )

Figure 1: Path analysis of Consumers' perception of green companies

Figure 1, represents the results of the path analysis for "Perceptions of Green Companies" and identifies the coefficients between the independent variables and the dependent variable. The path coefficients are one-tailed, and the critical ratios determined by the bootstrap method are as follows: 1.645 is significant at the .05 level, 2.326 is significant at the 0.01 level, and 3.090 is significant at the 0.001 level.

Figure 1, diagrammatically represents the results of the study and identifies the Beta coefficients between the independent and dependent variables. The overall model accounted for 25% of the variation towards "Perceptions of green companies". The path coefficient of "Attitudes towards the Environment" to "Perceptions of green companies" is significantly the highest ( $b = -0.351$ ). There seems to be a significant negative relationship between attitudes towards environmental issues and aspects in terms of protecting the environment. "Attitudes towards the environment" included environmental risks, government support towards the environment, industry growth and regulation. For instance, it could be suggested that although Portuguese companies are taking adequate measures to protect the environment, however, legislation does not adequately regulate environmental protection. This is inferred from the negative path between attitudes towards the environment and perception of green companies. All measures taken by the companies seem to be seen in the positive light towards perception of green companies by the participants. The government should contribute more towards environmental safety and provide more assistance for safeguarding the environment, whilst economic growth should be encouraged taking precaution not to damage the environment. Companies should reduce pollution rather than think of increasing profits.

While the next important contributor to "Perception of green companies" was "labelling of products" ( $\beta = 0.213$ ). Labels are an important source of

information for consumers' to make an informed choice. Label information provide consumers with an , objective and subjective environmental product characteristics. It assists companies to communicate their environmentally sound brand and distinguish the brand from other non-green brands. It helps to communicate a green image for the company. The magnitude of importance for each of the loadings for "labelling of products" commences with "not needing recycling information on label", followed by "satisfied with information on labels of the products" and finally "the reliance on past experience rather than information on the label". This would suggest that under the present circumstances for labelling of products, Portuguese companies do not necessarily require to emphasise any information on environmental matters. Consumers are satisfied with the present labelling information.

The least contributor to this overall model is the aspect of "Green products". The major component for this construct, is that consumers perceive that well known brand as always as safe products to buy, and that these contribute positively to overall to the perception of green companies. They will not purchase green brand if lower in quality and higher in price. This is in consistent to prior research conducted on an Australian sample (D'Souza, Taghian et al, 2005) as well as the Eurobarometer's survey conducted in 2008 (Eurobarometer Report, 2008).

## Conclusions:

The implication derived from the above analysis also has an impact in a number of areas. The results indicate that consumers have a positive attitude towards the environment, they demand green products, and they attempt to read environmental labels. Thus, in order to restore the consumer confidence in green companies, managers in Portugal should make a strategic effort towards these three areas.

The study does not intend to provide any final resolution but to lay the foundation on consumer perception of green companies. In the terms of academic research, this research forms the basis for further in-depth studies.

The research provides policy makers with an over view of legislative and regulatory mandate. Although companies in Portugal are keeping up with environmental concerns, more support is required by the government. Further research is required in terms of what type of environmental responsibility should companies and the government take? While Marketers have the opportunity to communicate and promote the environmental message on the labels, since most consumers tend to read labels, more on environmental messages needs to be addressed by manufacturers. With regards to green products, as consumers are not willing to trade-off on quality but are willing to pay a higher price, quality should be strongly emphasised.

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