Sustainable Development Behavior of Consumers

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**Abstract:** Changing market mechanisms by focusing on clean technologies and reducing the consumption of nonrenewable resources is an objective of the Europe 2020 strategy of the European Commission. Achieving this objective will require not only more restrictive legislation targeting polluting industries and technologies but also the introduction of new models of consumption oriented toward "green" products. Consumers’ preferences for nonpolluting products can be enhanced by credible and persuasive marketing instruments, such as the EU Ecolabel. A survey of Romanian businesspeople found that they are aware of the environmental and economic principles underlying the use of eco-labels and are interested in implementing them.

 **Keywords:** behavior, consumers, green marketing, Ecolabel, clean technologies, sustainable development;

1. Introduction

Consumers are becoming increasingly aware of the impact of their consumption decisions on the environment and on sustainable development. Today, products are being marketed in a way that both builds on that awareness and takes advantage of consumers’ preferences for sustainable development. In fact, consumer research has shown that simply calling a product “eco-friendly” is enough to make people believe it tastes better than an objectively identical alternative and to be willing to pay more for this good. Label effects arise even if there is no reasonable relation between the product label and the product itself. This preference bias for eco-friendly products over objectively identical but conventionally labeled alternatives could be caused by similar expectation processes that modulate the actual sensory experiences (Sörqvist et al., 2015).

The incorporation of sustainable development principles into contemporary economic thinking has led to the concept of the circular economy, one that is oriented to reusing waste products. A circular economy, which is built on the recovery and the regeneration of resources, aims to maintain the value and utility of products, components, and raw materials as much as possible. It thereby addresses two major societal and economic issues: the limited nature of resources and the pollution generated by waste. In *The Circular Economy: A Wealth of Flows,* Ken Webster (2015) argues that the economic reality of the twenty-first century makes necessary the shift from the “take, make, and dispose” paradigm, which was appropriate for economic mechanisms of the twentieth century, to organizational models that reflect feedback-rich flows. Such a regenerative economy leads to changes in the occupational structure of human resources and requires new tax policies, both at the national level and globally.

Consumers’ purchasing decisions, a key element of those feedback flows, are influenced by an array of psychological, moral, and cultural factors (Radulescu & Radulescu, 2011). Frey and Stutzer (2006), in their study of “environmental morale and motivation,” argue that individuals are driven by altruism, social norms and reciprocal fairness, internalized norms (in which strong moral principles induce self-evaluation), and intrinsic motivation (i.e., the willingness to pursue an activity for the benefit it yields in itself). Individuals’ purchasing decisions are influenced not only by their ethical values and beliefs; customs; culture; and social, political, and moral values but also by institutional settings that are likely to shape such attitudes by encouraging or discouraging some behaviors and attitudes. Individuals' economic behavior regarding environmental issues is also justified by their civic values. The representation of consumers' environmental preferences through their utility functions should also reflect these multiple non-economic determinants (Berglung & Matti, 2006).

Today there are more than 400 labels (Yuan, Bi, and Moriguichi, 2008) meant to convey the message to the consumer that the product/service is eco-friendly. According to a recent study carried within 26 countries worldwide, 86% consumers are concerned about the impact of climatic changes, and 71% avoid buying goods that are shipped from a great distance (Farmer, 2012). According to other studies, more than half of consumers want to buy products labeled as eco-friendly or take into consideration social or environmental protection factors when they decide to buy a product. However, they are confused by the multitude of labels / brands touting they are protective of the environment and face the difficulty of deciding which ones they can trust (Gooch & Williams, 2007, pp. 84–86). Because it is hard for consumers themselves to verify whether those products are indeed “green,” they usually rely on co-label programs to certify such claims. Typically, these programs certify—in exchange for a fee—that a firm's product meets a given environmental-performance standard determined by the program and then allow the firm to feature that program's eco-label on its packaging or advertising materials (Li & van't Veld, 2015). Eco-labels thus help inform consumers of the potential impacts on the environment based on the product’s or service’s life-cycle considerations (Monteiro, 2010, pp. 98–101; Phenga, Shang, & Long, 2014). They can serve as an

To achieve Europe 2020’s ambitious targets regarding sustainable development, the EU Ecolabel needs to be supported by robust analysis of the impact of green products and services on the environment. Identifying the environmental footprint of products (their product environmental footprint) is not just a more precise tool for measuring the environmental impact of economic activities but also will promote a single market for green products. Both producers and consumers need easy recognizable criteria to identify and compare products and services according to their impact on the environment, and policies and programs developed within the European Union can have a significant effect in the medium and long term in the development of a sustainable economy.

Adopting ecological strategies or creating initiatives consistent with the requirements of sustainable development should also help increase businesses’ economic performance (Chan, He, Chan, & Wang, 2012). However, the effective implementation of such strategies depends on support from management, a calendar very well done and the commitment of resources (Richey, Musgrove, Gillison, & Gabler, 2014).

This study had three research objectives: to determine whether Romanian businesspeople are aware of the environmental and economic principles underlying the use of eco-labels and are interested in implementing them; to identify the impact of using eco-labels on sustainable development; and to identify the impact of using eco-labels on a firm’s economic performance.

2. Method

A survey of 234 members of the Romanian business community elicited respondents’ views on the ethical, environmental, and economic impact of eco-labels, both those promulgated by the EU and by the Romanian government (see Tables 1 and 2), and their level of interest in using eco-labels. An econometric tool identified statistical correlations in the data (see Table 3 and Figure 1). The effect of eco-labels on economic performance was also examined.

2.1 Collection of Data

In order to identify the system of norms that set the basis for ecolabel principles in business, we used the results of research based on 234 people interviewed on business ethical behavior in ecolabel in the context of methodology established in connection with scientific issues. Scientific research is based on relevant aspects to the outcome of research, as principles of ecolabel, legislation on ecolabel, sustainability and environment protection.

2.2 Analysis of Data

**3. Results**

 The survey data show that the business agents are interested in implementing eco-labels because they believe that doing so will not only yield increased economic performance but also support sustainable development of the economy. Care for the environment has become a norm of corporate social responsibility, which is equated to the production and promotion of environmentally labeled products among consumers.

The H2 objective is mainly identified in the 11 questions addressed to the interviewees, which denotes their interference for the environment as a result of the efficient use of natural resources confirmed by the implementation of the eco-label. Thus, the interviewed economic agents capture, through the assumed behavior, through the decision to implement the eco-label, ethical, rational behavior, based on social responsibility.

The H3 objective is identified in all respondents' questions, which shows that economic agents consider the eco-label to have an effect on global demand. The performance of a company is directly determined by the quality of the products made, in accordance with the principles of sustainable development.

The results confirm both the interest of business agents in using eco-labels and their positive attitudes to the environmental principles underlying their use, as shown in the performance indicators in all the Q1–Q9 models, especially the Q3 model.

Within this model, the variable Q1 is the dependent variable, and Q1–Q3 are representative of the model. The stationary *R*-squared indicator compares the stationary part of the model to a simple mean model. This measure is preferable to ordinary *R*-squared when there is a trend or seasonal pattern [33]. Stationary R-squared positive values of the stationary *R*-squared mean that the model under consideration is better than the baseline model. From the results, we can see that Q3 has the highest positive value: stationary *R*-squared = 4.219E-015. The *R*-squared indicator determines the goodness-of-fit measure of a linear model, which sometimes is called the coefficient of determination. It is the proportion of variation in the dependent variable explained by the regression model. It ranges in value from 0 to 1. In this model the values close to 1 that indicates that the model fit the data well. Column *DF* lists the degrees of freedom for each of the tests of the coefficients. There is one degree of freedom for each predictor in the model. In this example, we have between 16 and 18 predictors.

4. Conclusion

Both at the micro- and macroeconomic level, a new vision of economic efficiency should be promoted that links investment in sustainable production with reduction in generated waste and in the costs of managing that waste (Radulescu & Radulescu, 2012). The EU Ecolabel can be a valuable tool in the implementation of that vision: it can facilitate both sustainable development and be a green marketing strategy for promoting the most developed technologies in today’s information society.

Decoupling economic growth from environmental degradation and the use of nonrenewable resources requires not only legislation aimed at penalizing polluters but also tools that stimulate the production and consumption of environmentally friendly goods through marketing mechanisms. By identifying how any product / service relates to clear criteria of environmental protection, the EU Ecolabel is key to the success of the Europe-wide project to promote sustainable development principles and implement green marketing.

Eco-labels with sustainability claims are now emerging worldwide. For the EU Ecolabel to be effective as a marketing tool for sustainable development, the criteria used to determine whether products indeed merit that label need to be strategically developed and communicated clearly. Such labeling programs should include and communicate all aspects related to sustainability in the production processes (Radulescu & Radulescu, 2012). The criteria development process and effective communication of those criteria are the core elements of effective eco-labeling programs.

This study shows the high level of interest among Romanian businesspeople in implementing the EU Ecolabel as part of a sustainable production cycle. Its use will not only promote the rational use of resources and sustainable business development but also may increase market share.

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**Table 1**. Sample structure

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| **Characteristics**  |

 |  | Percentage of sample |
| **Age groups of Entrepreneur** | 18–24 years25–34 35–4435–5455–64Over 64 | 1.205.8318.3166.308.240.12 |
| **Residence** | Urban areaRural area | 63.6726.33 |
| **Company\*** | MicroSmallMiddle | 5.2578.3416.41 |

**Table 2.** Survey Questions and Measurement Scale

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| **Questions**  |

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 | **Measurement** | **Results** |
| In the business partnerships that you develop are you guided by the values that do not affect the environment? | Very oftenOftenSeldomVery seldomNever | 0.610.250.1200.02 |
| Does the EU legislation on the Ecolabel have a major influence on your business ethical behavior? | Very oftenOftenSeldomVery seldomNever | 0.460.340.120.050.03 |
| Do you consider that there is a degree of convergence between the EU legislation on the Ecolabel and national legislation on the Ecolabel? | Very oftenOftenSeldomVery seldomNever | 0.370.350.130.080.07 |
| How often do you come in contact with the following (consumers/local business partners /foreign business partners/ others) who believe that the use of the Ecolabel is an opportunity? | Very oftenOftenSeldomVery seldomNever | 0.420.380.100.080.07 |
| Do you consider that the Ecolabel encourages businesses to market goods and services with low environmental impact? | Very oftenOftenSeldomVery seldomNever | 0.470.300.120.060.05 |
| Do you consider that the Ecolabel helps people easily identify organic products and services? | Very oftenOftenSeldomVery seldomNever | 0.630.230.080.040.03 |
| Do you consider that the Ecolabel promotes products that have a low environmental impact? | Very oftenOftenSeldomVery seldomNever | 0.520.300.090.020.03 |
| Are you subjected to pressures by EU to accept the principles of the Ecolabel? | Very oftenOftenSeldomVery seldomNever | 0.280.250.240.050.06 |
| Do your partners respect your ethical principles of environment protection? | Very oftenOftenSeldomVery seldomNever | 0.400.400.110.040.05 |
| Do you respect nature in all fields? | Very oftenOftenSeldomVery seldomNever | 0.300.330.220.060.09 |
| Do you think that the excessive consumption of goods tends to be seen as a possible danger for nature because it can lead to the degeneration of environment? | Very oftenOftenSeldomVery seldomNever | 0.620.200.090.050.04 |

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| **Table 3. Model Statistics** |
| Model | Number of Predictors | Model Fit statistics | Ljung-Box Q (18) | Number of Outliers |
| Stationary *R*-squared | Statistics | DF |  Sig. |
| Q1-Model\_1 | 1 | 1.008 | 2.832 | 18 | 1.000 | 0 |
| Q2-Model\_2 | 0 | 2.776E-015 | 1.879 | 18 | 1.000 | 0 |
| Q3-Model\_3 | 0 | 4.219E-015 | 2.163 | 18 | 1.000 | 0 |
| Q4-Model\_4 | 0 | 2.998E-015 | 2.002 | 18 | 1.000 | 0 |
| Q5-Model\_5 | 1 | 1.008 | 8.536 | 18 | 0.970 | 0 |
| Q6-Model\_6 | 2 | 1.468 | 21.361 | 16 | 0.165 | 0 |
| Q7-Model\_7 | 1 | 1.031 | 2.501 | 18 | 1.000 | 0 |
| Q8-Model\_8 | 1 | 1.046 | 9.495 | 18 | 0.947 | 0 |
| Q9-Model\_9 | 0 | 3.220E-015 | 2.069 | 18 | 1.000 | 0 |

Figure 1

