THE CONSUMERS OF GREEN PRODUCTS
THE CASE OF ROMANIAN MOLDAVIA COUNTIES

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Abstract
Being green is not a trend, as it is not a luxury. Being green has become a necessity. Sustainable consumption, the impact of our own consumption on the environment, the legacy we leave to future generations become goals and guide behaviors. Our research starts from a three-month longitudinal analysis of the consumption of 80 families (of which 40 with children up to 14 years, respectively 40 without children) from the eight counties in Moldavia - Romania, in order to explore if we can talk about a green consumption of the population in urban areas. Being exploratory, the research presents a perspective offered by the panel of subjects selected by the snowball method. The selected respondents are the ones who make the decision to buy food in their family. Ten categories of foods were selected, for each obtaining consumption data, motivations and behaviors in order to obtain the weight in which green foods are included in the consumption.
The research findings show that the main green products consumers are women and children. Most of those products don’t come from supermarket or specialized stores, but from their own household, from their parents or grandparents or they are purchased from the street market. Romanian do not trust the big commercial chains, but in peasants, small or well-known entrepreneurs. Being more expensive, green products are still considered to be a luxury, but there is an increase in consumption, especially after the correct awareness of the difference between them and common products.

Keywords: green/organic/bio products, green consumers, Y Generation families, Romania.

JEL Classification: D13, Q56, Q57, R21.

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**Introduction**

We have witnessed an increased attention and concern over the quality of food in recent years (Roman et al., 2015; Pagliacci et al., 2019). This tendency also appears simultaneously on the background of increasing environmental awareness (Afonso et al., 2018), of the need for environmental protection and conservation, the consumption becoming more and more green (Kumar and Polonsky, 2017; Ottman, 2017).

The green concept has in the mind of the consumer an association with ecology, environment and social responsibility (Suki, Suki and Azman, 2016). Bio, organic or ecological terms are used in different countries to designate the same concept. The ‘ecological’ term used in Germany, Spain and the Nordic countries speaking Danish is the same as the ‘bio’ term used by French, Italian, Portuguese and Dutch, and the ‘organic’ used in English-speaking countries. But very common are the cases where words such as ‘natural’ and ‘traditional’ are used, with different meanings.

Green products are those products that: do not affect or affect to a minimum the environment throughout the product life cycle, including when used or discarded; does not threaten the health of humans and animals; consumes a small amount of energy and other resources during the manufacture, use or disposal of products; reduce emissions to the environment over the life of products and do not contain hazardous and unhealthy substances.

According to European Commission regulations, a product is considered green only if at least 95% of its ingredients are green. Green farming requires the growth of grains, fruits and vegetables without chemical fertilizers, insecticides, herbicides, synthetic pesticides, additives and genetically modified organisms; any preservatives used must be natural, ecologically produced. Meat, milk and green eggs must come from animals that have been fed green (organic) food, without growth hormones and without antibiotics.

Green farming involves preparing the land to be cultivated for two to three years, and during this time, the committees of certification bodies will carry out regular inspections. In Romania, according to the Association for Consumers Protection, only the natural food, animal or vegetal, minerals or inorganic food additives are used in the processing stage. Also, in order to obtain organic, non-synthetic agricultural products, before they can be used as organic land, agricultural land must undergo a 2-3-year conversion process in which no substances are used of synthesis.

Starting in June 2010, all green pre-packaged products produced in EU countries must be labelled with the leaf with those 12 stars of the European Union on a green background and be accompanied by a quality certificate (Dinu et al., 2012; Ahmad et al., 2012). On the green label, the name and address of the manufacturer or processor must be mentioned, the product name, including the green production method used, the name and mark of the inspection and certification body (Brochado, Teiga and Oliveira-Brochado, 2017).

Consumers of these products are aware that ‘green’ means also being in harmony with the environment (Barbarossa and De Pelsmacker, 2016), not just having a diet more suited to your metabolism (Khare, 2015). The consumer of green products is different from the ordinary consumer because it takes into account the impact of his own consumption on all the people (Lu, Chang and Chang, 2015; Moser, 2015; Kim et al., 2016).
In promoting green products, it is preferable for the consumer to identify keywords such as natural, environmentally friendly, recyclable, and biodegradable, without adverse environmental effects (Nuttavuthisit and Thøgersen, 2017; Chang et al., 2019). Those who consume green products are generally elderly people and people with higher studies and those who consume green products the least bit are unemployed, artisans and farmers (Chiran, Dima and Gîndu, 2007; Yadav and Pathak, 2016).

And because there are green consumers, there has to be a green marketing (Mohd Suki, 2016) that comes with new associations: ecological, socially responsible, natural, social-humanitarian, environmental protection, sustainable, non-profit (González et al., 2015). Green marketing, part of general marketing (Cohen, Lobel and Perakis, 2015), aims to bring green products to market without disturbing the environment, pursues green products to be superior to the rest of the market, and to provide consumers with attributes designed to meet their food expectations natural, perfect physical health, a long life expectancy, for which he is willing to take more money out of their pocket (Papista et al., 2018; Mikalauskiene et al., 2018).

The consumption of green products is challenge for the current period because is related to the sustainability issue, that referes not only to change people's behavior on the environment, but also change the conception on the economy (Boldureanu, 2017), society and politics. It means being able to live without exhausting the resources available and without destroying the environment, without compromising the possibilities of meeting the needs of the next generations.

Based on these considerations, ours study proposes a three-month longitudinal analysis of the consumption of 80 families from the eight Romanian counties, in order to identify the extent to which their consumption is green. To fulfill the purpose of the study, in a first step is analyzed the relevant literature to the subject of our research and then is presented the study on green consumption in eight counties in Moldavia. Our research approach is based on both quantitative and qualitative method and the sampling technique used is non-probabilistic intentional type. The article ends with the presentation of results and the major conclusions.

1. Literature review

According to a survey conducted in 2007 by Rackspace Managed Hosting quoted by the Ecomagazin (Green Report, 2007), companies are increasingly worried about the effects their products and services have on the environment and for this reason they are willing to invest a lot more in their greening. Survey findings show that over 50% of the 400 consumers investigated would agree to take out 5% to 10% more from their wallets for green products and services. Only 75% of consumers surveyed would choose a green product instead of one that is not green, as the price would remain unchanged.

The International Institute for Sustainable Development published in 2013 a report describing green consumers, according to which the vast majority would agree to pay more for green products and 7 out of 10 consumers are willing to pay even up to 20% more. Only 1 out of 10 respondents said that under no circumstances would they pay more for them. On the other hand, the survey shows that respondents support companies that promote environmental friendly practices. A profile of current buyers of green products shows that they are female, aged 30-45, with children and having a higher level of available income.
This research has shown that the main factor in purchasing green food is the level of consumer's personal income. It seems to be a distinction between those who claim to be interested in the environment and those who regularly buy green products.

Other studies (Aertsens, et al, 2009; Joshi and Rahman, 2015; Kumar and Ghodeswar, 2015; Chekima et al., 2016; Khan and Mohsin, 2017) highlight the impact of the emotional component of attitude on the decision to consume green food. Green food consumption decisions can be explained by referring to the attributes of green food with multiple abstract values such as security (Goh and Balaji, 2016), hedonism (Maniatis, 2016), universality (Liobibiene, Mandravickaite and Bernatoniene, 2016; Culiberg and Elgaaied-Gambier, 2016), goodwill (Kostadinova, 2016), stimulation (Namkung and Jang, 2017), self-direction and compliance (Leonidou and Skarmeas, 2017). Calling on these values can positively influence attitudes towards eating green food (Ricci, Banterle and Stranieri, 2018).

A comparative study between UK and Denmark (Wier et al., 2008) was conducted to investigate the green food market, identifying the main differences and similarities. Emphasis was focuses in particular on consumers' perceptions and priorities, labeling systems and sales channels as a basis for assessing market stability and prospects for future economic growth. A single set of household panel data is used that includes information about the listed values and issues, as well as the recorded purchasing behavior. Most green food on both markets is produced and processed by large-scale industrialized units and distributed through mass-market channels, and consumer confidence is currently supported by eco-labeling schemes that seem to work well.

A parallel market, based on the delivery of goods through various channels of direct sales to heavy users, prevails (Suki, Suki and Azman, 2016). The purchasing decisions for green food is primarily motivated by attributes such as: freshness (He, et al, 2016), taste and health benefits (Yang et al., 2015), attributes that can be perceived as compatible with modern production and sales structure (Schuitema and De Groot, 2015). However, mature markets for green food appear to be vulnerable to consumer dissatisfaction, especially among heavy users of green products (Gershoff and Frels, 2015).

The 2008 crisis did not affect the consumption of green food. Manget et al. (2009) and Montesi et al. (2014) have shown that even in times of economic crisis, consumers remain interested in green products and services, aware of their benefits to the personal budget and the environment. The price isn’t, therefore, an obstacle (Aschemann-Witzel and Zielke, 2017; Degirmenci and Breitner, 2017). In order to evaluate green purchasing attitudes and behaviors, Manget et al. surveyed 9,000 subjects, ages 18 to 65, from nine countries (Germany, the United States, Canada, the United Kingdom, Spain, France, Italy, Japan and China). Consumers in these countries greatly appreciate the direct benefits that green products offer such as freshness and taste, the promise of security and health, but also the savings made on energy costs, even though the crisis has already occurred.

2. Research context

Romania, as other countries from the Eastern Europe, is developing a green market (Biswas and Roy, 2015).

According to Paglea and Uta (2012), widespread green trend at the international level is barely beginning to develop in Romania. They have conducted a study through which the
knowledge and attitude towards the green products, and the lifestyle of the subjects were correlated. According to their results, green products are perceived as healthier, potentially more environmentally friendly, and tastier. However, the concept of green product may not be well defined by consumers. In relation to lifestyle, activities, interests and opinions, interesting conclusions were reached. People with middle and high incomes are more likely to read the entire product label consistently. People with higher education are more likely to buy green products at least for testing. Women are more likely to buy green products because of their views on culture, future and social issues, as well as their interest in work, family and diet.

Following a survey for Green Report and conducted by Daedalus Consulting, Romanians have green spirit only if they have personal benefits from protecting the environment. The research was conducted on 1,003 subjects on urban people aged 18-65. Although they say they would be willing to take more money out of pockets for cleaner products, practice proves the opposite. Regarding the willingness of Romanians to spend money on green products, 73.1% of respondents said they would be willing to pay more for green food grown without chemical fertilizers and pesticides, 49.1% would agree to pay more for renewable energy, and 36.3% would pay more for products with biodegradable components. To consume green products, an average of 10 to 14% would be added at the current cost price, and 30% of respondents said they would pay that extra percentage for renewable energy, 28.3% of respondents for biodegradable products and 25.8% for organic food. Among the phenomena that have a strong impact on the environment, the Romanians identify worrying issues related to atmospheric pollution (84.3%), forest deforestation (84.1%), genetically modified food (77.3%), industrial pollution, drought and floods or the thinning of the ozone layer (by over 72%).

The first action in the top of the environmental protection activities that the Romanians have taken or will take, is to maintain the green space in front of the house; the second action is the purchase of economic bulbs, the reuse of plastic bags, reducing paper consumption, planting trees and shrubs, using public transport vehicles to the detriment of personal cars, recycling paper and glass and using products with returnable packaging.

3. Research methodology

The aim of the research is to do a comparative study of the behavior of purchasing and consumption of green food among 80 families (ten from each of the eight counties the Eastern part of Romania: Bacău, Botoșani, Galați, Iași, Neamț, Suceava, Vaslui and Vrancea), domiciled in the county residence-towns. Families are from the same generation, the Y Generation (born between 1980-1999), and supply food 2-3 times a week, especially at the end of it. Half of them have children up to 14 years of age, with the rest of families not having children. The study is not descriptive, the purpose being exploratory.

The overall objective is to identify the behavior of purchasing and consuming green food among the 80 families.

The specific objectives are:

- O1. Determining the perception regarding green products, highlighted distinctly according to the respondent's gender;
O2. Identifying the motivation to buy and consume green goods for each of the two spouses, both husband and wife;

O3. Establishing the green consumer receiver for each family member;

O4. Measuring the real consumption of green food by respondent categories;

O5. Identifying the food groups of the green products consumed;

O6. Identifying sources of green food supply;

O7. Assessing the expected benefits of consumers from green food.

Two research methods were used to achieve these objectives: one quantitative and one qualitative. Firstly, a longitudinal study for a three-month period was conceived, represented by a survey of a panel of respondents reporting weekly data on their own consumption. Subsequently, a semi-structured in-depth interview was conducted with the family member in charge of the food purchase decision to analyze the data from their own consumption, respectively to identify intentions about future consumption.

The panel was designed to gather data on the green food consumption of the 80 families, as well as data on demographic characteristics and motivational factors such as environmental and health concerns that may have an impact on food consumption. Other issues that we’ve been tracking are related to the provenance and destination of products, the location of sales points where green consumers supply, and the preferences of the 80 families for certain food stores and categories. Responses were recorded weekly, based on their bills and shopping logs, in a database presenting the food consumed for 3 months.

The sampling method used is non-probabilistic, intentional. Taking into account that families that have to meet the characteristics considered in this study are difficult to approach or to find, a selection of subjects was chosen based on the snowball method. The target population consists of female and male from the Y Generation, married couples. This generation includes people born between 1980 and 2000, sometimes called Gen Y, Millennial Generation or simply Millennials. The Y Generation members are more trustful and tolerant than many of their parents, ambitious, competitive, and driven by the desire to make a difference. In addition, this generation is supportive of social causes and socially responsible companies.

The weekly green and conventional food purchases of the following food groups were recorded in the Excel database (table no. 1):

- C1. Meat, fish, with the following subcategories: pork; beef; chicken; other types of meat; organs; bones; sausage; meat products; seafood; fish dishes.

- C2. Eggs

- C3. Milk and dairy products: milk; acid dairy products; cheese; sour cream; dairy desserts; other dairy products.

- C4. Cans and semi-prepared dishes: canned meat; canned fish; canned meat and vegetables; canned vegetables; pickles; canned fruits; fruit compotes; other preserves and semi-prepared meals.
- C5. Vegetables and fruits: fresh vegetables; fresh fruits; frozen vegetables; frozen fruits; dehydrated vegetables; dehydrated fruits; fresh leaves; mushrooms; other vegetables and fruits.
- C6. Cereals, derived from cereals: cereals; bread; bakery products; pasta; pastry; breakfast cereals; other cereal derivatives.
- C7. Honey and sugary products: honey; sugar and fruit products; chocolate; confectionery; candy and caramels; gum; halva; ice cream; other sugary products.
- C8. Oils and Fats: Oil; butter; margarine; lard; vegetable whipped cream; other fats.
- C9. Chips, snacks and oleaginous fruits: chips; snacks; fried corn; oleaginous fruits; others.
- C10. Spices, flavorings and sweeteners: spices; dry leaves; sauces; vinegar; flavoring; sweeteners; others.

Each family retained their weekly shopping bills receipts or completed a shopping log, after which the operator collected all of these data at regular intervals - after each weekend, on a day set by mutual agreement with each family. All weekly purchases were reported to the operator who entered them into the Excel database (as shown in table no. 1).

<table>
<thead>
<tr>
<th>Table no. 1. Database example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food Products Group</strong></td>
</tr>
<tr>
<td><strong>Milk and Dairy Products</strong></td>
</tr>
<tr>
<td><strong>Product</strong></td>
</tr>
<tr>
<td><strong>...</strong></td>
</tr>
</tbody>
</table>

In addition to the weekly shopping cart data, we also considered the provenance of the products (the place where the products were purchased: stores, market or obtained from their own production, received, sent from parents, grandparents, etc.), the destination (which member of the family consumes that product more than 50%) and the share of green products in total purchases.

4. Findings and discussions

The results of the three months of research are summarized below.

In the selective survey, and then, after the three months of research have been completed, the subjects were asked what kind of consumers they consider to be part of, their answers being compared, to analyze whether changes in perceptions on their own green consumption behavior. At the same time, we also aimed to identify the indirect influences of the study on the spouses' behavior and purchase behavior over the three months of collaboration. The results are presented in the figures no. 1a, 1b, 2a and 2b.
Looking at the four graphs, we can see the differences between respondents' answers before and after the research. If, initially, male respondents stated that only 30% of them were medium consumers, at the end of the months of the investigation, the responses changed, with 50% of the respondents becoming medium and the rest of the consumer’s light. In both men and women, there was no heavy consumer before long-term research. At the end, men are still without any heavy consumer compared to women who, although originally classified as average consumers at 60%, and the remaining 40% light consumers, said that 18% of them considered heavy consumers, the same percentage - medium consumers, and the rest, 64% - light consumers.

We define heavy consumers as consumers with more than 50% of the volume of green products consumed (for all types of food), medium consumers with a volume of green products consumed between 20% and 50%, light or low consumers are those with a share of the volume of green food consumed less than 10% and non-consumers on those who do not eat any green food (table no. 2)
Table no. 2. Green purchases classified by food groups, types of families (%)

<table>
<thead>
<tr>
<th>Food Products Group</th>
<th>Families without children</th>
<th>Families with children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Light user</td>
<td>Medium user</td>
</tr>
<tr>
<td>C1</td>
<td>10,5</td>
<td>-</td>
</tr>
<tr>
<td>C2</td>
<td>-</td>
<td>30,9</td>
</tr>
<tr>
<td>C3</td>
<td>12,5</td>
<td>-</td>
</tr>
<tr>
<td>C4</td>
<td>19,3</td>
<td>-</td>
</tr>
<tr>
<td>C5</td>
<td>0,8</td>
<td>-</td>
</tr>
<tr>
<td>C6</td>
<td>2,8</td>
<td>-</td>
</tr>
<tr>
<td>C7</td>
<td>3,6</td>
<td>-</td>
</tr>
<tr>
<td>C8</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>C9</td>
<td>-</td>
<td>21,9</td>
</tr>
<tr>
<td>C10</td>
<td>8,9</td>
<td>-</td>
</tr>
</tbody>
</table>

There are no big differences on the topic of the respondent's residence counties. Most differences appear between the two categories of families: with or without children. So a first conclusion would be that the presence of children leads to an increased consumption of green products. From the point of view of the source of these green foods, the results are presented in the table no. 3.

Table no. 3. Source of green food consumption (%)

<table>
<thead>
<tr>
<th>Food Products Group</th>
<th>Families without children</th>
<th>Families with children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Store</td>
<td>Market</td>
</tr>
<tr>
<td>C1</td>
<td>32,1</td>
<td>-</td>
</tr>
<tr>
<td>C2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>C3</td>
<td>11,7</td>
<td>2,18</td>
</tr>
<tr>
<td>C4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>C5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>C6</td>
<td>27,5</td>
<td>-</td>
</tr>
<tr>
<td>C7</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>C8</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>C9</td>
<td>27,9</td>
<td>-</td>
</tr>
<tr>
<td>C10</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Most of the green foods consumed by the families in the sample were "gifted" by parents and grandparents. It seems they constantly receive traditional foods from parents and grandparents, foods that cost much more, are not found or are not tasty like "just like mom makes it". On the second place, stores, especially supermarkets and hypermarkets, are among the top stores for green food, because here is a wide range of products, but at more favorable prices than green-goods stores. With respect to the amount of green food consumed by each family member, table no. 4 presents the results for each food group:
According to table no. 4, women consume more green food than men, especially when it comes to oil fruits such as nuts, peanuts, almonds, seeds; cereals; vegetables and fruits, but also milk and dairy products. Men can brag about eating green meat and fish, but also canned and cooked vegetables, fruits and vegetables.

In the process of purchasing green products, women are more prone to freshness, nutritional quality, safety, environmental protection and prevention of premature aging, as opposed to men, which are guided by the lack of pollutants, animal protection, positive self-image and identity.

By discussing the motivation to buy and consume green food, the main reasons people eat green are: physical and mental health, nature protection, spiritual satisfaction, healing diseases/diets. The hindrances to their more active green consumption are: too high a price, lack of information, low promotion, and distrust.

Regarding the attributes of green products, the subjects said they have a relatively high price, protect the environment, give some safety, taste better than normal, are healthier, fresher and give a positive self-image. Among the ways that subjects use to recognize a green product, the most used option is reading the label to see if the green leaf is the symbol of these products. Not all respondents trust the label, being reluctant to buy industrialized green products. Other options are face-to-face discussions with the manufacturer/trader and analysis. The tasting and smelling of the product are not very well agreed by the respondents, saying that these two methods are not effective in recognizing a green product.

Speaking openly in the in-depth interview about the changes that have occurred in the green behavior of families, we learned that they were more attentive to what they had consumed as a result of participating in this research, the operator's influence being exercised, a great deal for women and to a lesser extent for men.

The in-depth interview completed the results obtained in the longitudinal survey, offering both participants and researchers the opportunity to reach final conclusions, which are summarized below.
The popularity of green food is steadily rising. Supermarkets in the post-industrial world compete with each other to provide more food that was manufactured without the addition of synthetic chemicals and fertilizers.

In the context of the economic situation in Romania, being a green consumer is a luxury for a large part of the population. Considering that when buying green products and adopting green behavior, the benefits are seen in the long run, so most consumers still choose traditional products, depending on the price and the immediate benefits.

Research has shown that most of the green foods consumed are not industrialized, they do not come from supermarkets, hypermarkets or specialist stores, but from their own households, parents, grandparents or are bought in the markets. Romanians do not trust the big commercial chains, but they turn to peasants, small entrepreneurs or acquaintances for green products.

Although efforts are being made to educate consumers, they still make confusions between terms that define the same concept: bio, ecological, organic. All of the eighty families surveyed called for an explanation of the green term, which was nevertheless intended to be achieved. Interestingly, however, is the phenomenon: ignorance or vague knowledge of a concept, perhaps, known.

Differences between respondents' answers from different counties were insignificant, due to the fact that people from major cities were investigated. The most serious differences were registered between families with children and those without children, which suggests that the appearance of a child raises the awareness of the couple about the importance of a healthy diet, respectively the consequences of their own consumption.

The main limitations of this research refer to the following aspects: the short research period, of only three months; the intentional non-probabilistic sampling method is a subjective one, without permitting direct generalizations; exploratory research has the effect of forming small, unrepresentative samples.

The research can serve as a support for possible developments, with the possibility of being successfully used in the future, as a suggestion to extend the geographical area included in the study at national level or in different environments (rural/urban) to see the extent to which the results are confirmed.

As a general conclusion, it can be seen that in Romania consumers are not familiar with the concept of green consumption, which requires many improvements at the level of information of the general public, to protect the environment and to extend the life of the planet. Here comes in the interdisciplinary education, which is an extremely powerful means in the development of green orientation. The major problem is that this process will take many years to change the habits of individuals.

References


