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Organic Food Consumers and Purchase Intention: A Case Study in Romania

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Abstract: Organic farming has become an important alternative to conventional farming, mostly because of environmental sustainability issues, and has long-term positive benefits over soil, water, air and climate change, biodiversity, prohibiting the use of genetically modified organisms, and encouraging the development of ecological services. In Romania, the organic food market follows a positive trend, although the consumption rate is still very low compared to the European Union; therefore, it is necessary to identify the main barriers in consumption but also the factors influencing the increase in demand for this category of food products. In order to accomplish these objectives, a survey based on a questionnaire was conducted in the North-West Development Region of Romania, the second most important Romanian region from an economic development perspective. Five hundred and sixty-eight questionnaires were distributed in 2016. The collected data were analyzed using descriptive statistics and principal component analysis. The results indicated that the most important barrier in consumption was price, followed by perishability and availability. High prices, mistrust, and lack of proper promotion for organic food are the influencing factors for organic food.

Keywords: influence and promotion; mistrust; financial; organic demand

1. Introduction

Organic farming has become an important alternative to conventional farming mostly because of environmental sustainability issues related to greenhouse emissions, soil erosions, and biodiversity reduction [1]. Organic agricultural practices have long-term positive benefits over soil, water, air and climate change, biodiversity, prohibiting the use of genetically modified organisms, and encouraging the development of ecological services [2], even if it is impossible to produce the same amount of food as the conventional sector because of the lack of sufficient organic nutrients [3]. Positive perception of organic farming is developing in the European Union, given the fact that the total organic area was 11.9 million hectares in 2016, increasing by 18.70% compared to 2012 [4].

With respect to the organic food products market, it can be stated that, in 2016, the member states of the European Union occupied the second position in the global organic food products market, with a share of 38%, after the United States of America [5]. The EU's organic food market increased with 47.7% between 2012 and 2016, reaching a sales level of 30.7 billion euros, with Germany being the market leader [6].

In Romania, the organic food market follows a positive trend, taking into account that organic surfaces increased from 182,706 hectares in 2010 to 258,470.93 hectares in 2017. The organic certified operators substantially varied from 2010 to 2017, although the percentage of organic cultivated surfaces within the total cultivated area is around 2–3% (Table 1) [7,8]. Romanian retail sales reached 80 million euros in 2016, but the percentage of organic products in total retail sales still remains quite low (0.7%) compared to other European countries, such as Denmark (9.7%), Luxembourg (8.5%), or Switzerland (8.4%) [5], hence barriers in consumption and influencing factors must be explored and analyzed for Romanian consumers, in order to build sustainable market strategies and support organic farming and organic producers.

Table 1. Numerical distribution of Romanian organic certified operators between years 2010–2017.

Year	2010	2011	2012	2013	2014	2015	2016	2017
Number of organic certified operators	3155	9703	15,544	15,194	14,470	12,231	10,562	8434
Total surface of organic farming (ha)	182,706	229,946	288,261	301,148	289,252	245,924	226,309	258,471
Total cultivated surface (ha)	7,807,379	8,081,613	8,058,329	8,166,824	8,234,437	8,265,354	8,409,242	8,307,344
Percent of organic surface	2.3%	2.9%	3.6%	3.7%	3.5%	2.9%	2.7%	3.1%

[7,8].

Scholars from other countries focused on identifying the main motivations for organic food products consumption [1,9–26], considering also the barriers in purchasing them [11,16–20,27–33]. Previous studies [23,34–38] related to the organic food consumption in Romania mainly analyzed the motivations to purchase organic food products and the behavior of the organic food consumer without focusing on the barriers in consumption, so this fact represented the starting point for this research.

The present study had three main objectives: (1) To determine which factors influence organic food consumption, (2) to identify the main constraints in purchasing organic food in the North-West Development Region of Romania, and (3) to identify the profile of the organic food products consumer.

The paper is structured in six main sections. Following the introduction, there is a section related to the literature review of the main barriers and factors which influence organic food consumption. The third section details the research area and describes the research methodology. Furthermore, the results are indicated in the fourth section, while the fifth section is dedicated to the discussions. The paper ends with the conclusions and implications of the study, which are shown in the sixth section.

2. Literature Review

Many studies from different countries approach the organic consumption issue, trying to identify the main motivations for which organic food is being purchased. These major motivations were grouped into the following types: Health motivations [9–23], ethical concerns [25], taste [11], freshness [10,21,22], quality [18], and sustainability concerns [1,11,15,26–28]. Even for the Romanian consumer, health is the major motivation for purchasing organic food products, followed by the environmental concerns [36–39]. Romanians' attitudes towards organic food are generally positive one and influence the consumer behavior and the decision-making process of food purchasing [38,39].

Despite numerous positive motivations for organic food consumption and the green trends [40], the relatively low percentage of organic food products market within the total organic food market might be explained by some important barriers for consumers, which must be analyzed in depth for future corrections and improved marketing strategies.

Premium price by comparison to conventional food is the barrier most frequently mentioned by consumers when they refer to organic food purchase [9,11,16–18,25,29,40–43] but is a normal one, since organic food consumers represent a niche segment, meaning they are less price-sensitive and more loyal than in the case of the conventional food segment [44], which does not exclude the case when organic consumers themselves face the price barrier [29]. It was stated that a low budget allocated for organic food is in relation with the low level of awareness regarding the meaning of organic food and the benefits it offers, but also with health issues and health habits [29]. Price is considered to be the

most important barrier for the development of organic food market in Poland, followed by insufficient knowledge and availability [29]. Still, price is not always considered as an absolute barrier but remains one important factor among others in the decision-making process of consumers' purchases [29].

Insufficient marketing (in relation to merchandising and display) is often mentioned as a barrier in purchasing organic food products [29,31,45]. The price as a barrier is explained by some as egoism and price consciousness which means spending time and energy to look for the lowest price, so, according to Van Doorn and Verhoef [46], the consumers with high price consciousness will avoid organic food. On the contrary, consumers with strong biospheric values (concern for the environment, animal welfare, and other-oriented values) and quality consciousness will be more interested in organic food.

Availability and accessibility of organic food products is perceived as an important barrier in consumption [11,17,27–29,40–43,47] which has little effect on the segment of consumers with high biospheric values [46]. Accessibility is a very important factor also for Romanian consumers when it comes to the purchasing process of organic food products [34], as the most appreciated place of purchase is directly from the producers, followed by supermarkets [39]. The purchasing frequency is relatively low (once a month) [35]. A particular situation was observed in the case of Norwegian consumers, which have not perceived any positive benefits of consuming organic products over time, even if these products are available on the market, and they have access on them [48]. Besides that, a specific barrier is represented by the economical and political conflict of interests towards the transition to a sustainable consumption system [48].

Mistrust in organic food labeling and certification was mentioned in Norway [48], India [25], China [17], and the UK [29] as an important barrier. Besides the trust in labeling and certification, some scholars approached the problem of trust in the organic food itself, as a consequence of lack of knowledge regarding technology, production systems and other things which are related to organic products. The problem is that a low level of knowledge creates mistrust and consequently, less intentions of buying organic food [49]. Other findings revealed how food-related personality traits like "Food neophobia" and "Food involvement" are key issues in building trust in organic food. High levels of food neophobia characterizes consumers with less trust in organic food, since their desire to try new products is low, compared to low levels of food neophobia meaning consumers who are eager to try new products. It was also observed that the more involved the consumer is, the more information he will gain about healthy food and the more trust he will have in organic food, in opposition to less involved consumers [50].

Even if the mentioned factors are often considered major barriers for organic food consumption, Scalco et al., observed that the intention to purchase organic food is mostly influenced by personal attitude, followed by subjective norms and the perceived barriers are only on third place [51].

Socio-demographic variables often influence the way in which respondents perceive organic food products. It was noticed that, generally, women are more likely to purchase organic food products than men [28,52,53], even if men are willing to pay premium prices for organic food [53]. Men consider that worse taste is a major barrier, but also the mistakes made by marketers when they build marketing strategies for organic food products, while women perceive high prices and short expiry dates as being the most important ones [29].

In Poland, youngsters consider themselves satisfied with conventional food and consider the organic one unappealing and tasteless, while older people mention high prices and lack of knowledge as main barriers [18]. Similar findings were obtained in Greece [40] and Serbia [54], where youngsters are not willing to pay extra for organic food because of personal financial status, while for the adult segment of Serbian respondents things are very different, since the willingness to pay extra for organic food increases with age. It was also observed, among the Serbian population that the buying propensity increases with the level of urbanization [54].

Income is considered to have an ambiguous effect on organic purchase, many of the researches indicating contradictory results [55]. Thus, some of the results reflect that income has a positive influence on organic food demand [52,56–58] while others highlight no influence or a minor one [59,60].

For example, visual product quality is considered as a barrier only for the low-income Greek consumers, while for high-income segment is not [40].

The existence of children within households can represent an influencing factor over the organic food consumption, because of parents' concerns for children's health [56].

3. Materials and Methods

The study was conducted in the North-West Development Region of Romania, during February–May 2016, in order to identify the purchase behavior of consumer and the main barriers towards organic food consumption. This region is one of the eight Regions of Romania and comprises six counties including Bihor, Bistrița-Năsăud, Cluj, Maramureș, Satu-Mare, and Sălaj with a surface area of 34,159 km² (14.32% of the total country surface) and a total population of 2,078,705 persons [61]. The North-West Region of Development is the second most attractive Region after Bucharest-Ilfov from the economic development perspective (dynamic labor market, higher incomes, foreign investments, modern technologies) [62].

To achieve the purpose of the study, a quantitative survey was carried out during February–May 2016. The simple random sample, without replacement, the continuous variable (age), with a relative error of 2.5%, and 95% confidence interval was used to calculate the sample size of 572 respondents. The research population was represented by the residents from the North-West Development Region of Romania, over age 18. Respondents were selected based on their age respective of the distribution of the original population until the required sample size has been reached. The interview operators (four students trained and supervised by three of the researchers) distributed 650 questionnaires in the neighbourhood of the supermarkets, local markets, special shops, and fairs using as a contact method the face to face interview. Questionnaires were distributed in 8 cities and 15 communes of the North-West Development Region. The survey resulted in 568 usable instruments representing an 87.38% response rate.

The survey instrument comprised three sections. In the first section, a set of 10 items adapted from previous research [26,63] were used to evaluate the factors that influence consumers' consumption behavior towards organic food products. Each of the 10 items was evaluated on a scale from 1 to 5, where 1 means totally disagree, and 5 means totally agree. The second section was designed in order to identify the perceptions of the consumers on organic food products, reasons for their consumption and barriers in consumption. This section comprised a set of 14 items adapted from previous studies [26,32,64,65], evaluated on a scale from 1 to 5, where 1 means totally disagree, while 5 means totally agree. The third section of the survey instrument was used to design the consumers' socio-demographic profile.

A descriptive statistical analysis was used to identify the profile of the organic food consumers and to determine the mean and standard deviation of each of the statements used to identify the possible barriers in consumption. Exploratory factor analysis was utilised to assess the factor structure of the variables that describe the influencing factors on organic food consumption. The 14 variables were factor-analyzed using the principal component analysis (PCA) with the Varimax rotation method to establish the underlying constructs. The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy and Bartlett's test of Sphericity were examined to determine the fitness of the data. Cronbach's alpha reliability coefficient was computed for each factor to estimate the internal consistency of each scale. A confirmatory factor analysis (CFA) was conducted to test data validity [66] via AMOS 23.0. Shapiro–Wilk test [67] was used to test the normality of the statements, while the Mann–Whitney U test [68] was chosen to compare the two groups based on their family members, and their attitudes regarding motives for using organic products.

4. Results and Discussions

4.1. Socio-Demographic Profile of the Respondents

In the entire North-West Development Region the majority of the respondents are males (54.9%), while, regarding their age, it can be concluded that there is almost an equal distribution for all age categories, except for the segment of age over 65 (Table 2). The sample is an educated one, since 50.7% of the respondents graduated high school and 41.2% have a university degree. A significant percentage of 34% of the respondents have a very low income, below 225 euros, and approximately equal percentages of the respondents obtain small (24.7%) and medium incomes (27.6%). Children under the age of 18 can be found only in 43.5% of the cases (Table 2).

Table 2. Socio-demographic profile.

Characteristics	Variables	Number of Respondents <i>N</i> = 568	Percent of Respondents (%)
Gender	Female	256	45.1
	Male	312	54.9
Age	18–24	105	18.5
	25–34	123	21.7
	35–44	150	26.4
	45–54	113	19.9
	55–64	73	12.9
	Over 65	4	0.7
Education level	Illiterate	5	0.9
	Less than high school	41	7.2
	High school	288	50.7
	University degree	234	41.2
Household monthly income	<225 euros	193	34.0
	225–445 euros	140	24.7
	445–895 euros	157	27.6
	>895 euros	78	13.7
Children under 18 years	YES	247	43.5
	NO	321	56.5

4.2. Main Barriers in Organic Food Consumption

Respondents from the North-West Development Region admit the existence of some barriers which impede the consumption of organic food products. Among them, the fact that organic food is perceived as an expensive food category is the most important one (Mean = 3.73, SD = 1.448) reinforcing the results from previous studies where price is considered a dominant barrier [9,11,16–18,25,29,40–43] (Table 3). Strictly related to high prices, organic food is considered as a premium category of food and this perception affects the consumption level (Mean = 3.30, SD = 1.508) being a correct one since organic food is indeed addressed to a niche segment based on low price-sensitiveness and loyalty [44]. Another aspect which often impedes consumers to buy organic food is their perishability (Mean = 3.62, SD = 1.395), the second most important barrier for the Romanian consumers, aspect related to the lack of preservatives for this category of food. Other researches mention the perishability of organic food as a consumption barrier, but only related to fruit and vegetables [69,70]. The fact that organic food is difficult to find often represents a barrier in consumption, but not so important like their perishability (Mean = 3.50, SD = 1.395), an important difference is thus resulting compared to other related studies, where availability is mentioned as a second most important barrier [11,17,27–29,40–43]. The unattractive aspect (Mean = 3.09, SD = 1.469) of organic food is mentioned as a barrier also by the Romanian consumers, just like in the case of low-income Greek consumers [40]. Unlike other studies which underline the consumers' lack of information regarding organic products [49,50] the Romanian consumers do not consider themselves uninformed (Mean = 2.89, SD = 1.414).

While in some cases, organic consumption is seen as fashionable [52,64] and a research conducted in the same Development Region [36] concluded that is indeed fashionable for 33% of the people interviewed, the respondents disagreed that it could be a barrier in consumption (Mean = 2.84, SD = 1.414).

Table 3. Barriers in organic food products consumption.

Items (1-“Totally Disagree”; 5-“Totally Agree”)	Mean	SD
Are expensive	3.73	1.448
Are difficult to find	3.50	1.414
There is no difference between conventional and organic food	2.46	1.574
Are difficult to keep(perishable)	3.62	1.395
Are difficult to consume	2.32	1.485
I do not know where to find it	2.84	1.461
Unattractive aspect	3.09	1.469
Lack of information	2.89	1.414
High fat content	2.60	1.302
Have more calories	3.19	1.486
Have no vitamins and minerals	2.47	1.525
It is fashionable	2.84	1.414
Are premium products	3.30	1.508
Lack of variety	2.66	1.348

SD = standard deviation.

4.3. Consumer Perception on Influencing Factors in Organic Food Consumption

The PCA was conducted to assess the dimensionality of the 10 items. The Barlett test of Sphericity was significant (Chi-square = 1602.557, $p = 0.000$). The KMO overall measure of sampling was 0.762 (>0.6), indicating that data were adequate for the PCA [66]. The exploratory factor analysis with Varimax rotation of the 10 variables resulted in a three-factor solution that explains 62.19% of the total variance, which according to Hair et al. [66] must be higher than 60%. All three factors had eigenvalues greater than 1. Cronbach’s alpha reliability coefficient was computed to evaluate the internal consistency of each component. The overall reliability of the 10 variables was 0.74 higher than 0.6, indicating that data were suitable for the principal component analysis [71,72]. Table 4 presents the three underlying dimensions resulting from the first PCA. The CFA results suggest good fit as follows: $\chi^2 = 147.904$, degrees of freedom d.f. = 32 ($\chi^2/\text{d.f.} = 4.622$), $p < 0.001$, the Normed Fit Index NFI = 0.889, the Tucker Lewis Index LIT = 0.867, the Comparative Fit Index CHI = 0.906, and the Root Mean Square Error of Approximation RAMSES = 0.09 [50]. The composite reliability (C) of the constructs was above 0.7, with an average variance extracted (AVE) higher than 0.5 [66].

The first dimension entitled “Influence and marketing” explained 35.46% of the total variance, with a reliability coefficient of 0.803. This dimension was comprised of six statements which refer to the fact that the respondents need exterior impulse for purchasing organic food and highlight the importance of marketing for this category of food products. Among the six statements, the respondents showed the highest degree of agreement with the fact that their organic food consumption would increase if they knew how to recognize the category (Mean = 3.19, SD = 1.486) and also if it would be better promoted (Mean = 3.06, SD = 1.302) (Table 4) reinforcing the previous results referring to the huge importance of marketing and merchandising (display in the shops) for organic food [31,45].

An important factor which can influence the purchasing habits seems to be the favorite producer in the case of producing an organic line (Mean = 3.13, SD = 1.469) and the better taste compared to conventional products (Mean = 3.07, SD = 1.414). Advice from friends and family (Mean = 2.85, SD = 1.355) or the personal image/self presentation (Mean = 2.44, SD = 1.413) do not count so much for the respondents, unlike other studies where self presentation represented an important motive to purchase organic food mainly for elderly [73].

The second dimension entitled “Mistrust” explained 15.38% of the total variance, with a reliability coefficient of 0.688 and comprised two factors. Both refer to the lack of trust among consumers regarding the generally “promised benefits” of organic food (health and environment protection), fact which could be explained by the relative novelty of the concept on the Romanian food market, if compared to the European Union, where in some countries, such as Norway, the consumers are able to express a conclusion after consuming organic food products for a while and not perceiving a health improvement or any other benefit [48]. Similar facts were observed by other scholars when they analyzed consumption barriers, the mistrust being focused both on organic certification [48] in India [24], China [16], and the UK [29] and on the organic food itself [48].

The third dimension labeled “Financial” explained 11.35% of the total variance, with a reliability coefficient of 0.79 and comprised two factors, one of them related to the perceived high prices of organic food products and the other to perception over personal financial status. Consumers expressed the highest degree of agreement with regards to the possibility of increasing their organic food consumption in the case of a price reduction (Mean = 3.97, SD = 1.274) for this food category. Results bring into attention the importance of price for consumers and the fact that, indeed, price is considered a barrier for consumption [9,16–18,25,29,40–43].

Table 4. Principal Component Analysis (PCA) on influencing factors for purchasing organic food products.

Eigenvalue	Variance %	Component	Item	Factor Loading	Mean	SD
3.546	35.46	Influence and marketing $\alpha = 0.803$	If it would be better promoted	0.738	3.06	1.302
			If my favorite producer would have an organic food line	0.717	3.13	1.469
			If I knew how to recognize it	0.705	3.19	1.486
			If it would offer me a better image in society	0.682	2.44	1.413
			If it would be tastier	0.678	3.07	1.414
			If my friends and family would advise me to buy	0.623	2.85	1.355
1.538	15.38	Mistrust $\alpha = 0.688$	If researchers/doctors would prove its positive effect on human body	0.845	3.67	1.356
			If researches would prove the pollution reduction	0.818	3.61	1.375
1.135	11.35	Financial $\alpha = 0.756$	If prices were smaller	0.899	3.98	1.274
			If I would have more money	0.875	3.89	1.319
Total variance %	62.19	$\alpha = 0.79$				

Note: SD = standard deviation, α = Cronbach’s alpha reliability coefficient.

4.4. Consumers and Non-Consumers of Organic Food Products

Further, the Shapiro–Wilk test was used to test the normality of the statements ($p < 0.05$) while the Mann–Whitney U test was chosen to compare the two groups based on their family members and their attitudes regarding motives for using organic products (Table 5). The results indicated a dominant group of organic food consumers ($N = 399$), more than double as opposed to the non-consumers ($N = 169$). An interesting fact referring to the gender of the consumers is that among each group, the percentage of males and females was almost equal; 54.9% of the organic consumers were males, while 55% of the non-consumers were males, too. With regards to the age of the respondents in the category of organic consumers the percentage of each segment of age was quite equal (almost 20% in each segment, except the last group of respondents over age 65). The non-consumers were better represented by the segment of young mature respondents between 35–44 years. Both categories of organic food consumers and non-consumers were dominated by respondents who graduated from high school, while the percentage of respondents with a university degree was higher among organic food consumers (43.9%). The non-consumers group of respondents exhibited the highest

share of persons with a low level of monthly income (47.3% of the respondents had a less than 225 euros). On the other hand, the segment of organic food consumers was better represented by the respondents with a medium income (31.3% have a monthly income between 445–895 euros). The number of members in the family was higher in the case of non-consumers (3.98 members). It could be observed that for the segment of organic food non-consumers, the three factors (“influence and marketing”, “mistrust”, and “financial”) represent important influencing factors in consuming organic food products, among which the financial is the strongest, as explained by the low level of monthly income for this particular segment (Table 5).

Table 5. Consumers versus non-consumers of organic food.

Characteristics	Variables	Consumers	Non-Consumers	Chi-Square	p-Value
Number of Members		399	169	DF	
Gender	Female	180 (45.1%)	76 (45.0%)	$\chi^2 = 0.001$, df = 1	0.985
	Male	219 (54.9%)	93 (55.0%)		
Age	18–24	86 (21.6%)	19 (11.2%)	$\chi^2 = 17.534$, df = 5	0.004 **
	25–34	92 (23.1%)	31 (18.3%)		
	35–44	91 (22.8%)	59 (34.9%)		
	45–54	79 (19.8%)	34 (20.1%)		
	55–64	47 (18.8%)	26 (15.4%)		
	Over 65	4 (1.0%)	0 (0.0%)		
Education level	Illiterate	3 (0.8%)	2 (1.2%)	$\chi^{22} = 25.012$, df = 3	0.000 ***
	Less than high school	15 (3.8%)	26 (15.4%)		
	High school	206 (51.6%)	82 (48.5%)		
	University degree	175 (43.9%)	59(34.9%)		
Household monthly income	<225 euros	113 (28.3%)	80 (47.3%)	$\chi^2 = 22.433$, df = 3	0.000 ***
	225–445 euros	99 (24.8%)	41 (24.3%)		
	445–895 euros	125 (31.3%)	32 (18.9%)		
	>895 euros	62 (15.5%)	16 (9.5%)		
Number of members in the family		3.55	3.98		
Under 18	YES	166 (41.6%)	81 (47.9%)	$\chi^2 = 1.993$, df = 1	0.164
	NO	233 (58.4%)	88 (52.1%)		
Factors	Influencing	Mean (SD)	Mean (SD)	p-value	
	Factor and marketing	2.91 (0.118)	3.07 (0.995)	0.118	
	Mistrust	3.53 (1.222)	3.89 (1.080)	0.002 ***	
	Financial	3.82 (1.209)	4.23 (0.985)	0.000 ***	

** $p < 0.01$, *** $p < 0.001$.

5. Conclusions and Managerial Implications

5.1. Theoretical Implications

The main objective of the present article was to identify barriers in the consumption of organic food. In previous literature, a significant amount of research investigated the motives which underlie the consumption of organic food, without focusing on the barriers in consumption. Therefore, the present research aimed to fill a gap within the literature of organic food behavior, focusing on the barriers in consumption which yet had not been approached for the Romanian consumers. It was observed that, for Romanian consumers, price is the main obstacle in organic food consumption, reinforcing previous studies [9,11,16–18,25,29,40–43], and organic products are perceived as premium products. Perishability is the second most important barrier in consumption, followed by accessibility, which is not perceived as a dominant issue compared to other research on the topic [11,17,28,29,40–43]. A notable aspect, which contradicts other research, is the fact that Romanian consumers did not consider themselves uninformed about this category of food products. Moreover, they did indeed know where to search for organic food.

5.2. Managerial Implications

The results of this study have important and serious implications for the marketing of organic products but also managerial implications. In terms of marketing, it was noticed that consumers appreciated easy-to use food, non-perishable, and convenient; and, in the case of organic food, both attributes became barriers in consumption, which illustrates that, in fact, there is a lack of knowledge among Romanian consumers regarding organic food, but also that there are perspectives for related businesses, like packaging [74]. Consequently, a better communication strategy is needed in order to inform and educate consumers on what organic truly means [75]. This is how they could understand that the unattractive aspects and perishability are due to the fact that the product is natural and that the high prices are the consequence of particular production features, smaller amounts of production, but that the items are indeed of higher quality. In view of increasing accessibility for this category of products, retailers must adopt adequate distribution strategies, namely to identify organic certified producers and create partnerships, expand distribution channels and become present in more retail shops [75]. Organic producers could create partnerships with grocery stores, which are more and more interested in promoting healthy products and becoming more trustworthy than supermarkets and hypermarkets concerning fruit and vegetables. Demand for organic food could increase by making efforts towards informing consumers that organic food is not a niche line but is actually what people used to consume a long time ago, before industry appeared. Another method for increasing demand might consist of adopting sophisticated and targeted marketing strategies [76]. Torres-Ruiz et al. [77] consider that one possible strategy could rely on achieving greater social and environmental awareness, in order to encourage organic consumption, or simply link the consumption of the product to important benefits for the consumer (health, quality) [78].

Results of the study mention three main influencing factors which marketers and managers should look for because they often represent barriers in the consumption of organic food products: Influence and marketing (referring to insufficient promotion for organic food products); mistrust (not perceiving advantages of an organic food consumption); and financial (high prices and personal financial status). All stakeholders within an organic food chain must be aware of them and try to diminish their influence. If prices were lower, an important segment would purchase organic products. The reasons for their prices exceeding conventional products and how consumers should be better informed about this issue have been discussed by highlighting the aspect of money value and offering pertinent information about the meaning of an organic product. It was perceived that consumers are sensitive to influence and promotion. Present results reinforced other studies [29,31,45], where respondents indicated an inappropriate marketing approach for this food category, from the promotion strategy to merchandising. Organic food is often difficult to spot in a shop, not properly signalized, and barely recognisable among conventional products. Consumers could expect advice from people they know when it comes to purchasing and consuming organic food, which could be explained by the lack of trust in an expensive product often having an unattractive aspect and high perishability. Therefore, marketers must identify the advisers and build proper communication strategies for increasing knowledge and provide arguments in favor of purchasing of organic food. Romanian consumers admitted having a problem in recognizing organic food products, so, in order to solve this problem, organic product labels should be better promoted so that consumers could easily find organic food on the shelf. Mistrust was another influencing factor for Romanian consumers. Organic food generally promises environmental protection and health benefits. The problem is that there are no studies which accurately indicate the direct effects of organic food consumption. Marketing managers can use segmentation in order to target the most attractive segment and to build marketing strategies adapted to their particular characteristics and increase the demand.

5.3. Limitations and Future Research Directions

The three stated objectives could frame the starting point in building effective marketing strategies for organic food and improve the current situation characterized by a low percentage of organic food

consumption compared to other countries from the European Union. Furthermore, the findings could help farmers to establish future directions in terms of organic conversion and retailers to adopt proper market strategies in order to increase the organic food demand.

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References

1. Crowder, D.W.; Reganold, J.P. Financial competitiveness of organic agriculture on a global scale. *Proc. Natl. Acad. Sci. USA* **2015**, *112*, 7611–7616. [CrossRef]
2. FAO. Available online: <http://www.fao.org/organicag/oa-faq/oa-faq6/en/> (accessed on 24 October 2018).
3. Timsina, J. Can Organic Sources of Nutrients Increase Crop Yields to Meet Global Food Demand? *Agronomy* **2018**, *8*, 214. [CrossRef]
4. Eurostat Statistics Explained. Available online: https://ec.europa.eu/eurostat/statistics-explained/index.php/Organic_farming_statistics#Organic_farming_statistics (accessed on 25 October 2018).
5. International Federation of Organic Agriculture Movements. Available online: <https://www.ifoam-eu.org/en/organic-europe> (accessed on 25 October 2018).
6. European Parliament. Available online: <http://www.europarl.europa.eu/news/en/headlines/society/20180404STO00909/the-eu-s-organic-food-market-facts-and-rules-infographic> (accessed on 18 January 2019).
7. Romanian Ministry of Agriculture and Rural Development. Available online: <http://www.madr.ro/agricultura-ecologica/dinamica-operatorilor-si-a-suprafetelor-in-agricultura-ecologica.html> (accessed on 25 October 2018).
8. Romanian National Institute of Statistics. Available online: <http://statistici.INSSE.ro:8077/tempo-online/#/pages/tables/insse-table> (accessed on 1 March 2019).
9. Zanolli, R.; Naspetti, S. Consumer motivations in the purchase of organic food: A means-end approach. *Br. Food J.* **2002**, *104*, 643–653. [CrossRef]
10. Wier, M.; O'Doherty, J.K.; Andersen, L.M.; Millock, K.; Rosenkvist, L. The character of demand in mature organic food markets: Great Britain and Denmark compared. *Food Pol.* **2008**, *33*, 406–421. [CrossRef]
11. Aertsens, J.; Mondelaers, K.; Verbeke, W.; Buysse, J.; Van Huylenbroeck, G. The influence of subjective and objective knowledge on attitude, motivations and consumption of organic food. *Br. Food J.* **2011**, *113*, 1353–1378. [CrossRef]
12. Sangkumchaliang, P.; Huang, W.C. Consumers' perceptions and attitudes of organic food products in Northern Thailand. *Int. Food Agribus. Manag. Rev.* **2012**, *15*, 87–102.
13. Zagata, L. Consumers' beliefs and behavioural intentions towards organic food. Evidence from the Czech Republic. *Appetite* **2012**, *59*, 81–89. [CrossRef]
14. Meixner, O.; Haas, R.; Perevoshchikova, Y.; Canavari, M. Consumer attitudes, knowledge, and behavior in the Russian market for organic food. *Int. J. Food Syst. Dyn.* **2014**, *5*, 110–120.
15. Wee, C.S.; Ariff, M.S.B.M.; Zakuan, N.; Tajudin, M.N.M.; Ismail, K.; Ishak, N.; Haji, L.T. Consumers Perception, Purchase Intention and Actual Purchase Behavior of Organic Food Products. *Rev. Integr. Bus. Econ. Res.* **2014**, *3*, 378–394.
16. Irianto, H. Consumers' attitude and intention towards organic food purchase: An extension of theory of planned behavior in gender perspective. *Int. J. Manag. Econ. Soc. Sci.* **2015**, *4*, 17–31.
17. Xie, B.; Wang, L.; Yang, H.; Wang, Y.; Zhang, M. Consumer perceptions and attitudes of organic food products in Eastern China. *British Food J.* **2015**, *117*, 1105–1121. [CrossRef]
18. Bryla, P. Organic food consumption in Poland: Motives and barriers. *Appetite* **2016**, *105*, 737–746. [CrossRef]
19. Kapuge, K.D.L.R. Determinants of organic food buying behavior: Special reference to organic food purchase intention of Sri Lankan customers. *Proc. Food Sci.* **2016**, *6*, 303–308. [CrossRef]

20. Yadav, R.; Pathak, G.S. Intention to purchase organic food among young consumers: Evidences from a developing nation. *Appetite* **2016**, *96*, 122–128. [CrossRef]
21. Ueasangkomsate, P.; Santiteerakul, S. A study of consumers' attitudes and intention to buy organic foods for sustainability. *Proc. Environ. Sci.* **2016**, *34*, 423–430. [CrossRef]
22. Baudry, J.; Péneau, S.; Allès, B.; Touvier, M.; Hercberg, S.; Galan, P.; Amiot, M.J.; Lairon, D.; Méjean, C.; Kesse-Guyot, E. Food choice motives when purchasing in organic and conventional consumer clusters: Focus on sustainable concerns (The NutriNet-Santé Cohort Study). *Nutrients* **2017**, *9*, 88. [CrossRef]
23. Oroian, C.F.; Safirescu, C.O.; Harun, R.; Chiciudean, G.O.; Arion, F.H.; Muresan, I.C.; Bordeanu, B.M. Consumers' Attitudes towards Organic Products and Sustainable Development: A Case Study of Romania. *Sustainability* **2017**, *9*, 1559. [CrossRef]
24. Saba, A.; Messina, F. Attitudes towards organic foods and risk/benefit perception associated with pesticides. *Food Qual. Prefer.* **2003**, *14*, 637–645. [CrossRef]
25. Basha, M.B.; Mason, C.; Shamsudin, M.F.; Hussain, H.I.; Salem, M.A. Consumers attitude towards organic food. *Procedia Econ. Financ.* **2015**, *31*, 444–452. [CrossRef]
26. Lucas, M.R.; Röhrich, K.; Marreiros, C.; Fragoso, R.; Kabbert, R.; Clara, A.M.; Martins, I.; Böhm, S. Quality, Safety and Consumer Behaviour towards Organic Food. Available online: http://www.cefage.uevora.pt/pt/content/download/1562/20309/version/1/file/2008_05.pdf (accessed on 22 July 2017).
27. Magnusson, M.K.; Arvola, A.; Hursti, U.K.K.; Åberg, L.; Sjöden, P.O. Attitudes towards organic foods among Swedish consumers. *Br. Food J.* **2001**, *103*, 209–227. [CrossRef]
28. Lea, E.; Worsley, T. Australians' organic food beliefs, demographics and values. *Br. Food J.* **2005**, *107*, 855–869. [CrossRef]
29. Padel, S.; Foster, C. Exploring the gap between attitudes and behavior: Understanding why consumers buy or do not buy organic food. *Br. Food J.* **2005**, *107*, 606–625. [CrossRef]
30. Honkanen, P.; Verplanken, B.; Olsen, S.O. Ethical values and motives driving organic food choice. *J. Consum. Behav.* **2006**, *5*, 420–430. [CrossRef]
31. Hughner, R.S.; McDonagh, P.; Prothero, A.; Shultz, C.J., II; Stanton, J. Who are organic food consumers? A compilation and review of why people purchase organic food. *J. Consum. Behav.* **2007**, *6*, 1–17. [CrossRef]
32. Aygen, F.G. Attitudes and behavior of Turkish consumers with respect to organic foods. *Int. J. Bus. Soc. Sci.* **2012**, *3*, 262–273.
33. Toit, L.; Crafford, S. Beliefs and purchasing practices of Cape Town consumers regarding organically produced food. *J. Fam. Ecol. Consum. Sci.* **2013**, *31*, 1–11.
34. Chiciudean, D.; Funar, S.; Arion, F.; Chirla, G.; Man, A. The Factors of Influence over the Consumer Buying Behaviour for Organic Food. *Bulletin UASVM Hort.* **2012**, *69*, 68–71.
35. Chiciudean, D.; Funar, S.; Chirla, G. Short Analysis of the Consumer Buying Behavior of Organic Food. *Bull. UASVM Hortic.* **2012**, *69*, 368–369.
36. Petrescu, D.C.; Petrescu-Mag, R.M. Organic Food Perception: Fad, or Healthy and Environmentally Friendly? A Case on Romanian Consumers. *Sustainability* **2015**, *7*, 12017–12031. [CrossRef]
37. Dumea, A.C. Factors Influencing Consumption of Organic Food in Romania. Perception of Organic Food Consumption in Romania. *USV Ann. Econ. Public Adm.* **2017**, *12*, 107–113.
38. Petrescu, A.G.; Oncioiu, I.; Petrescu, M. Perception of Organic Food Consumption in Romania. *Foods* **2017**, *6*, 42. [CrossRef]
39. Vietoris, V.; Kozelová, D.; Mellen, M.; Chreneková, M.; Potclan, J.E.; Fikselová, M.; Kopkáš, P.; Horská, E. Analysis of Consumer Preferences at Organic Food Purchase in Romania Pol. *J. Food Nutr. Sci.* **2016**, *66*, 139–146. [CrossRef]
40. Tsakiridou, E.; Boutsouki, C.; Zotos, Y.; Mattas, K. Attitudes and behaviour towards organic products: An exploratory study. *Int. J. Retail Distrib. Manag.* **2008**, *36*, 158–175. [CrossRef]
41. Vindigni, G.; Janssen, M.A.; Jager, W. Organic food consumption: A multi-theoretical framework of consumer decision making. *Br. Food J.* **2002**, *104*, 624–642. [CrossRef]
42. McEachern, M.G.; Willock, J. Producers and consumers of organic meat: A focus on attitudes and motivations. *Br. Food J.* **2004**, *106*, 534–552. [CrossRef]
43. Krystallis, A.; Chrysosoidis, G. Consumers' willingness to pay for organic food: Factors that affect it and variation per organic product type. *Br. Food J.* **2015**, *107*, 320–343. [CrossRef]

44. Marian, L.; Chrysochou, P.; Krystallis, A.; Thøgersen, J. The role of price as a product attribute in the organic food context: An exploration based on actual purchase data. *Food Qual. Pref.* **2014**, *37*, 52–60. [\[CrossRef\]](#)
45. Chryssochoidis, G. Repercussions of consumer confusion for late introduced differentiated products. *Eur. J. Mark.* **2000**, *34*, 705–722. [\[CrossRef\]](#)
46. Van Doorn, J.; Verhoef, P.C. Drivers of and Barriers to Organic Purchase Behavior. *J. Retail.* **2015**, *91*, 436–450. [\[CrossRef\]](#)
47. Tarkiainen, A.; Sundqvist, S. Subjective norms, attitudes and intentions of Finnish consumers in buying organic food. *Br. Food J.* **2005**, *107*, 808–822. [\[CrossRef\]](#)
48. Vittersø, G.; Tangeland, T. The role of consumers in transitions towards sustainable food consumption. The case of organic food in Norway. *J. Clean. Prod.* **2015**, *92*, 91–99. [\[CrossRef\]](#)
49. Teng, C.C.; Wang, Y.M. Decisional factors driving organic food consumption. *Br. Food J.* **2015**, *117*, 1066–1081. [\[CrossRef\]](#)
50. Ayyub, S.; Wang, X.; Asif, M.; Ayyub, R.A. Antecedents of Trust in Organic Foods: The Mediating Role of Food Related Personality Traits. *Sustainability* **2018**, *10*, 3597. [\[CrossRef\]](#)
51. Scalco, A.; Noventa, S.; Sartori, R.; Ceschi, A. Predicting organic food consumption: A meta-analytic structural equation model based on the theory of planned behavior. *Appetite* **2017**, *112*, 235–248. [\[CrossRef\]](#)
52. Lockie, S.; Lyons, K.; Lawrence, G.; Mummery, K. “Eating “green”: Motivations behind organic food consumption in Australia”. *Sociol. Rural.* **2002**, *42*, 23–40. [\[CrossRef\]](#)
53. Ureña, F.; Bernabéu, R.; Olmeda, M. Women, men and organic food: Differences in their attitudes and willingness to pay. A Spanish case study. *Int. J. Consum. Stud.* **2008**, *32*, 18–26. [\[CrossRef\]](#)
54. Vapa-Tankosić, J.; Ignjatijević, S.; Kranjac, M.; Lekić, S.; Prodanović, R. Willingness to pay for organic products on the Serbian market. *Int. Food Agribus. Manag. Rev.* **2018**, *21*. [\[CrossRef\]](#)
55. Kim, G.S.; Seok, J.H.; Mark, T.B. New Market Opportunities and Consumer Heterogeneity in the U.S. Organic Food Market. *Sustainability* **2018**, *10*, 3166. [\[CrossRef\]](#)
56. Davies, A.; Titterton, A.J.; Cochrane, C. Who buys organic food?: A profile of the purchasers of organic food in Northern Ireland. *Br. Food J.* **1995**, *97*, 17–23. [\[CrossRef\]](#)
57. Dimitri, C.; Dettmann, R.L. Organic Food Consumers: What Do We Really Know about Them? *Br. Food J.* **2012**, *114*, 1157–1183. [\[CrossRef\]](#)
58. Chen, B.; Saghaian, S.; Zheng, Y. Organic Labelling, Private Label, and US Household Demand for Fluid Milk. *Appl. Econ.* **2018**, *50*, 3039–3050. [\[CrossRef\]](#)
59. Durham, C. Organic Purchase Dedication: A Fractional Probit Model. *Agric. Resour. Econ. Rev.* **2007**, *36*, 304–320. [\[CrossRef\]](#)
60. Li, J.; Zepeda, L.; Gould, B.W. The Demand for Organic Food in the U.S.: An Empirical Assessment. *J. Food Distrib. Res.* **2007**, *38*, 54.
61. Official site of the North-West Development Region. Available online: <https://www.nord-vest.ro/regiunea/> (accessed on 15 December 2018).
62. North-Western Agency of Regional Development. Available online: <http://www.admnord-vest.ro/DESPRE-NOIAgentia-de-Dezvoltare-Regionala-Nord-Vest/REGIUNEA-TRANSILVANIA-DE-NORD/Prezentare-Regiune.html> (accessed on 15 December 2018).
63. Peart, J. Finnish Consumer Attitudes Concerning Organic Food. Master Thesis, Vaasa Ammattikorkeakoulu University of Applied Sciences Business Economics and Tourism, Vaasa Finland, 2013. Available online: <https://www.theseus.fi/bitstream/handle/10024/64766/Joel%20Peart%20Thesis.pdf?sequence=1> (accessed on 14 January 2019).
64. Gil, J.M.; Gracia, A.; Sanchez, M. Market segmentation and willingness to pay for organic products in Spain. *Int. Food Agribus. Manag. Rev.* **2000**, *3*, 207–226. [\[CrossRef\]](#)
65. Annunziata, A.; Pascale, P. Consumers’ Behaviours and Attitudes toward Healthy Food Products: The case of Organic and Functional foods. In Proceedings of the 113th EAAE Seminar “A Resilient European Food Industry and Food Chain in A Challenging World”, Chania, Greece, 3–6 September 2009.
66. Hair, J.F., Jr.; Black, W.C.; Babin, B.J.; Anderson, R.E. *Multivariate Data Analysis*, 7th ed.; Pearson Education Limited: Edinburgh Gate, Harlow Essex CM20 2JE England, 2012.
67. Shapiro, S.S.; Wilk, M.B. An analysis of variance test for normality (complete samples)! *Biometrika* **1965**, *52*, 591–611. [\[CrossRef\]](#)

68. Ruxton, G.D. The unequal variance t-test is an underused alternative to Student's t-test and the Mann–Whitney U test. *Behav. Ecol.* **2006**, *17*, 688–690. [[CrossRef](#)]
69. Pollard, J.; Kirk, S.F.L.; Cade, J.E. Factors affecting food choice in relation to fruit and vegetable intake: A review. *Nutr. Res. Rev.* **2002**, *15*, 373–387. [[CrossRef](#)]
70. Alam, S.; Shafiea, F.A.; Rennie, D. Consumer Perceptions towards Organic Food. *Proc. Soc. Behav. Sci.* **2012**, *49*, 360–367. [[CrossRef](#)]
71. Kaiser, H.F. Index of factorial simplicity. *Psychometrika* **1974**, *39*, 31–36. [[CrossRef](#)]
72. Ding, C.; He, X. K-means clustering via principal component analysis. In Proceedings of the 21st International Conference on Machine Learning, Banff, AB, Canada, 4–8 July 2004; pp. 29–37.
73. Hwang, J. Organic food as self-presentation: The role of psychological motivation in older consumers' purchase intention of organic food. *J. Retail. Consum. Serv.* **2016**, *28*, 281–287. [[CrossRef](#)]
74. Rana, J.; Justin Paul, J. Consumer behavior and purchase intention for organic food: A review and research agenda. *J. Retail. Consum. Serv.* **2017**, *38*, 157–165. [[CrossRef](#)]
75. Nasir, V.A.; Karakaya, F. Consumer segments in organic foods market. *J. Consum. Mark.* **2014**, *31*, 263–277. [[CrossRef](#)]
76. Pearson, D.; Henryks, J.; Sultan, P.; Anisimova, T. Organic food: Exploring purchase frequency to explain consumer behaviour. *J. Org. Syst.* **2013**, *8*, 50–63.
77. Torres-Ruiz, F.J.; Vega-Zamora, M.; Parras-Rosa, M. False Barriers in the Purchase of Organic Foods. The Case of Extra Virgin Olive Oil in Spain. *Sustainability* **2018**, *10*, 461. [[CrossRef](#)]
78. Vega-Zamora, M.; Torres-Ruiz, F.J.; Parras-Rosa, M. Key Determinants of Organic Food Consumption: The Case of Olive Oil in Spain. *HortScience* **2018**, *53*, 1172–1178. [[CrossRef](#)]



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