

WHY CONSUMERS PURCHASE ORGANIC PRODUCTS? THE ROLE OF ENVIRONMENT, HEALTH AND AGE

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RESUMEN

El mercado de productos ecológicos está aumentando en todo el mundo, especialmente en la categoría de los alimentos, en particular de productos orgánicos. El objetivo de este estudio es entender mejor porque los consumidores compran productos orgánicos, profundizando en su preocupación ambiental, conciencia de salud y edad. La evidencia empírica se basa en una encuesta online, utilizando una muestra de 279 compradores habituales de productos orgánicos en España y Portugal. Los resultados muestran que existe una relación positiva entre preocupación ambiental, conciencia de salud y comportamiento de compra verde. La preocupación ambiental es más fuerte que la salud para explicar esta relación. También la edad es un predictor de la compra y los consumidores mayores de 35 años compran más productos orgánicos que los más jóvenes. Para los profesionales de marketing, el estudio permite desarrollar mejores estrategias de marketing para atraer y retener a estos consumidores.

Palabras Clave:

Preocupación del medio ambiente, conciencia de la salud, edad, productos orgánicos, comportamiento de compra.

ABSTRACT

The market of green products is increasing all over the world, especially in food category that shows a great demand for biologic and organics. The aim of this study is to better understand the why consumers buy organic products, more specifically environmental concern, health consciousness and age. The empirical evidence is based on an online survey, using a sample of 279, regular shoppers of organic products in Portugal and Spain. The results show there is a positive relation between environmental concern, health consciousness and green purchase behavior. Environmental concern is stronger than health to explain this relation. Also age is a predictor of green purchase behavior and older consumers with more than 35 years purchase more organics than younger consumers. For managers and marketers, the study enables to develop better marketing strategies to address these consumers and to enhance environmental concern, health and age to foster organics consumption.

Keywords:

Environmental Concern, Health Consciousness, Age, Organic Products, Purchase Behaviour.

1. Introduction

Environmental concern and health consciousness have become popular in Europe from mid-80s on (Greenan, Humphreys & McIvor 1997), and consumers began to look for more environmentally friendly alternatives instead of their traditional purchases. The National Geographic and GlobeScan, based on the results published by Greendex (2010) from a survey of 17,000 consumers from 17 different countries, reveals that consumers are very concerned about the environment and this has been reflected on their daily consumer preferences.

Consumers are also translating their environmental concern and health consciousness into behaviour by buying more green products. The data collected in the latest study of Organic Agriculture Research Institute (FiBL) & IFOAM (2015) demonstrates that United States was the country with the most sales regarding organic products with 24 billion, followed by Germany (7.5 billion), France (4.3 billion) and China (2.4 billion).

This report shows that the reasons consumers choose to buy organic products vary by country or continent. In some parts of Europe, environmental concerns are the main reason for purchase. However, in China and other parts of Asia, organic means higher quality and safety.

Green products are perceived by green consumers as being less aggressive to the environment as conventional products (Ottman, 1993; Mainieri, Barnnet, Valdero, Unipan & Oskamp, 1997) but also because they believed are better for consumer's health and contribute to a healthier lifestyle (Padel and Foster, 2005; Hauser, Jonas & Riemann 2011; Goetzke, Nitzko & Spiller, 2014; Wier, O'Doherty, Mørch & Millock, 2008).

Ottman (1994) refers that green consumers are concerned about environment, taking it into account, however, this is a secondary need of consumers. That is, consumers buy products to meet the other needs, such as health or safety, and environment can act as an "add-on" to the product, exceeding customer expectations.

A study conducted by GfK (2014) for Spain indicates that green consumers are less young with 26 per cent up to 35 years and 74 per cent with more than 35 years old meaning that older consumers tend to buy more green products than the younger ones. This raises evidences that age might influence the purchase behaviour of green products.

The aim of this study is to better understand the determinants of consumer purchase behaviour of green products, more specifically biological food, taking into account the influence of environmental concern, health consciousness and age applied to Spain and Portugal.

2. Literature Review

2.1. The increase of green products and organic food consumption

The term "green product" and the promise of "environmentally friendly" tend to generalize. Churchill & Peter (2000) state that organizations need to develop new products if they want

to survive. Due to the intense competition, the companies that do not innovate lose market for innovative organizations.

There is a lack of agreement about what is a green product. According to Ottman (1995), defining a green product is not an easy task because there are still no proven methods that can effectively measure the environmental impact of one product over another. According to Ottman (1993) green products are those that have less environmental impact compared with its alternative. That is, a green product is one in which environmental and social performance is significantly better than the corresponding conventional or competitive offerings. The green products are usually associated with products that don't harm the environment and human health. They are generally considered more durable, non-toxic, made from recycled materials and with the least packaging possible.

Ottman (1993) argues that there are no totally environmentally compliant products, since the development and production of any product generates waste during its manufacture, distribution, consumption and at the stage where the consumer discards it. The author states that a green product to be declared as such, all these dimensions must be taken into consideration and the failure of any of these dimensions might compromise the promise of the product. McDaniel & Rylander (1993), reinforce this statement by claiming that the products become less harmful to the environment, when all operational areas consider all environmental impact of business activity throughout the life cycle of the product.

One of the green products categories that has been increasing is organic food. According to the Economic Research Service (2012), in the United States of America, fresh fruits and vegetables have been the top selling category organic food. Produce accounted for 43 per cent of organic food purchase in 2012, followed by dairy (15 per cent), packaged/prepared foods (11 per cent), beverages (11 per cent), bread/grains (9 per cent), snack foods (5 per cent), meat/fish/poultry (3 per cent), and condiments (3 per cent).

European Union (EU) consumers' spent around € 22 billion in 2013, boosting organic market growth by nearly 6% (EU, 2015). Various terms such as "bio", "eco", and "organic" are used to refer to organic products. According to EU guidelines (2015) towards organic foods the term, "bio/biological" is more commonly used in Latin and Germanic languages while English-speaking countries use the term "organic". EU indicates "organic" as a method of production that aims to produce high-quality products and the use of processes that do not harm the environment, or human, plant or animal health and welfare.

2.2. Determinants of Green Consumer Purchase Behaviour

Ecologically conscious consumers are defined as "individuals who seek to consume only products that cause the least - or do not exercise any - impact on the environment" (Roberts, 1996). According to Hailes (2007), green consumer is someone that associates the act of purchasing or consuming products with the possibility of acting in accordance with environmental protection. The green consumer knows that by declining to purchase products that are harmful to the environment, she/he is somehow contributing to environmental preservation. Therefore, according to Hailes (2007), green consumers avoid buying products that they perceive as risky to health, damage the environment during production, use or final disposal, consume much energy, have excessive packaging, and contain ingredients coming from threatened habitats or species. According to Chase (1991),

environmentally conscious people are willing to change their purchasing behaviour for environment protection.

Some studies have investigated how consumers perceive the organic products. They indicate that purchase motives are attributed to environmental and health consciousness (Krystallis & Chryssohoidis, 2005; Grunert & Juhl, 1995; Fotopoulos & Krystallis, 2002; Paladino, 2005).

Environmental Concern

Some authors consider the 90s as “the decade of the environment” or “the Earth decade” as environmental concern became more relevant in this period (Prothero, 1996; Menon et al., 1999). This fact resulted in a considerable increase in the environmental awareness by consumers. McIntosh (1991) has listed some key factors that enabled this phenomenon, namely the increased media coverage, the generalized intensification of the environmental problems, the existence of influential groups that started to organize related activities such as NGOs, the strong impact on the public opinion after some major environmental disasters and also the existence of local and foreign legislation. Consequently, consumers became more environmentally concerned and progressively have been changing their daily habits and purchasing patterns (Roberts & Bacon, 1997; Straughan & Roberts, 1999).

Environmental concern is commonly defined as the individual’s awareness of the environmental problems and their willingness to be part of the problem solution (Chan & Lau, 2000; Dunlap & Jones, 2002). Several authors correlated this variable with environmental friendly behaviour (Roberts & Bacon, 1997; Straughan & Roberts, 1999). According to Maloney et al. (1975), environmental concern is related to the emotions and knowledge level as well as to a readiness to change behaviour. Schultz & Zeleny (2000) argue that “attitudes of environmental concern are rooted in a person’s concept of self and the degree to which an individual perceives him or herself to be an integral part of the natural environment” and green purchase decisions are often based on consumer’s environmental attitudes (Schwepker & Cornwell, 1991).

Kim & Chung (2011) state that environmental concern attitudes is the most important determinant of purchase intention of green products. Kim & Choi (2005) argue that the level of consumer’s environmental concern is strongly linked to consumer’s purchase behavior of green products. According to Paladino (2005) environmental concern is a determinant of consumer purchase behavior of organic products. Thus, the following hypothesis is presented:

H1. Environmental concern influences positively purchase behavior of organic products.

Health Consciousness

According to Becker et al. (1977), health consciousness influences consumers to engage in healthy behaviors. Health conscious consumers care and pursue well-being (Newsom et al., 2005). The studies of Wier et al. (2008), Hauser et al. (2011), and Goetzke et al. (2014) found evidences that the consumption of organic food is closely related to a healthy lifestyle.

Lockie, Lyons & Mummery (2002) demonstrate that organic consumers are more motivated than non-organic consumers by considerations such as health, the natural

ingredients of foods, animal welfare, environmental protection, weight control, fitness, political values and mood.

Padel & Foster (2005) explored what underlies consumers purchasing decisions and state that health is an important factor for consumers when buying organics. Also Lea & Worsley (2005) and Magnusson et al. (2001) indicate that organic products are perceived as healthier than non-organic alternatives. Moreover, consumers distinguish organic food as having a higher vitamins and minerals content than conventional products (Lea & Worsley, 2005).

Boivin, Durif & Roy (2011) also found out that health is a facilitator to green purchase behaviour, since green products are believed to be better for consumer's health than conventional ones.

According to the literature on green products, specially focusing on food category, organic food consumption, health influences purchase behaviour organic food (Krystallis & Chryssohoidis, 2005; Goetzke et al., 2014; Hauser et al., 2011; Padel & Foster, 2005; Wier, 2008). Thus, the following hypothesis is presented:

H2. Health consciousness influences positively purchase behavior of organic products.

The literature is not clear regarding which reasons – environmental concern or health consciousness – better explain green purchase behavior. FiBL & IFOAM (2015) report indicates that in Europe environmental concern is the main reason why consumers buy green products. Nevertheless, Ottman (1993) refers that green consumers are concerned about environmental, taking it into account, however, that this is a secondary need of consumers. Padel & Foster (2005) also highlight that health is the main reason why consumers purchase organic products. An OECD (2011) revealed that for OECD countries, 70 per cent is the proportion of households ranking health higher than the environment in their motivation to consume organic food. Also a Nielson (2010) study found that consumers are driven to organic food purchases because they are healthier choices and rank health as the main reason. Thus, the following hypothesis is presented:

H3. Health consciousness is stronger than environmental concern to explain purchase behavior of organic products.

Age

The relation between age and green purchase behaviour was explored by several authors. However, results are contradictory. Some authors found non-significant relations between age and green purchase behaviour (Kinnear et al., 1974; Straughan & Roberts, 1999;

Akehurst, Afonso & Gonçalves, 2012) while others have found significant and positive relations (D'Souza et al., 2007; Samdahl & Robertson, 1989).

Against this background, the present study aims to take a closer look at the role of age. An OECD (2011) study involving 10 000 households indicate that only age was found to have a significant influence on organic food consumption. A study conducted by GfK (2014) indicates that green consumers are less young with 26 per cent up to 35 years and 74 per cent with more than 35 years old meaning that older consumers tend to buy more green

products than younger, maybe due to their higher purchasing power. Thus, the following hypotheses is presented:

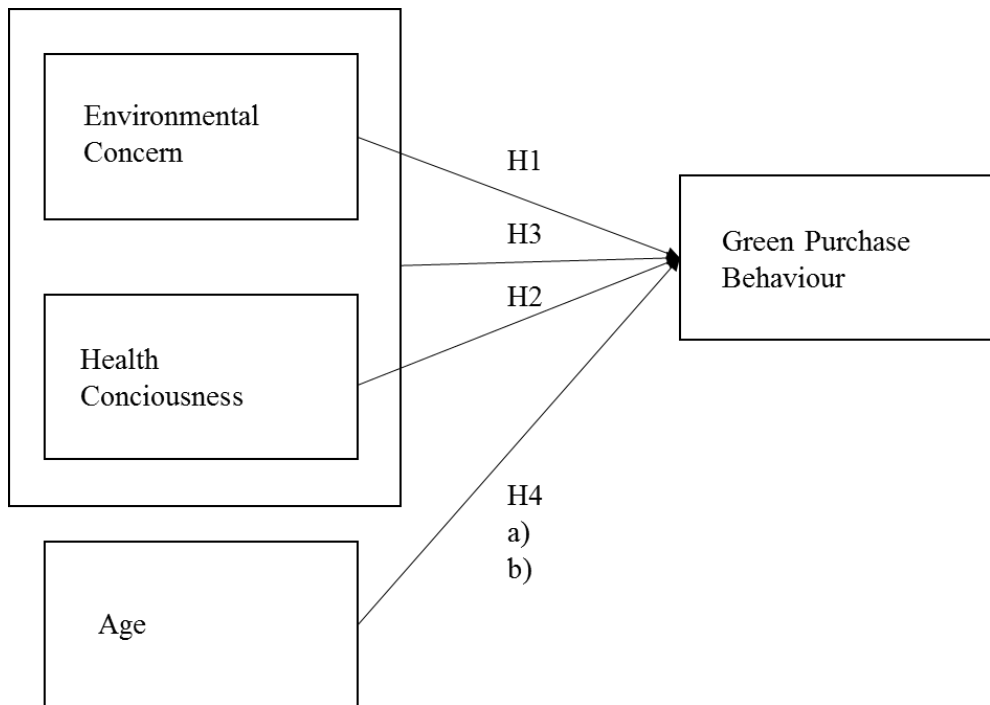
H4 a) Age influences purchase behaviour of organic products.

H4 b) There are significant differences in purchase behaviour of organic products among younger (until 35 years) and older (more than 35 years).

3. Conceptual Model and Hypotheses

As stated in previous sections, the objective of this paper is to explore and better understand consumer's purchase behaviour of organic products. Based on the theoretical discussion on literature review made, we stated several hypotheses of this study namely that can be depicted on Figure 1.

FIGURE 1: Conceptual Model.



4. Methodology

4.1. The Questionnaire and Measures

This study used a structured questionnaire that took into account the information needs and the data collection method chosen, that was an online survey. The questionnaire had a filter and respondents had to answer to a dichotomous question about being regular buyers of

organic products (fruit, vegetables, dairy, cereals) or not. By regular shoppers was meant consumers that buy organic food products at least once per week. Only positive responses to this question would be able to proceed to the questionnaire. The questionnaire was subjected to a pre-test to ascertain the word meaning, structure and logical flow. The questionnaire had also an introduction explaining what was meant by organic food products to make sure respondents were clearly aware about the object of the study.

The measures were adapted from previous studies. All of the items were measured on a 7-point Likert scale, where 1 represents “strongly disagree” and 7 represents “strongly agree”.

Environmental Attitudes scale was measured by five items adapted from Kilbourne & Picket (2007). Health consciousness was measured by three items adapted from Boivin et al. (2011). Green Purchase Behaviour was measured by five items adapted from Kilbourne & Picket (2008). For age, the dummy variable has the value "1" when consumers have until 35 years old, and "0" for consumers older than 35.

4.2. Population, Sample and Procedure

The target population of the study were adults (≥ 18 years), regular shoppers of organic food, residents in Spain and Portugal. The objective is to analyse both countries together so that a global analysis for Iberia can be attained. A convenience sample of 279 respondents was obtained.

The study was conducted from January to March 2015. The questionnaire was promoted in collaboration with local biological supermarkets and specialized shops that sell organic products that helped to distribute the survey among their clients through email and social media platforms.

5. Results

As reported in Table 1, males comprised about 44.1 per cent of respondents, while female are 55.9 per cent. In terms of age, 38, per cent are until 35 years old and 61.3 per cent are more than 35 years. Regarding net income, 20.9 per cent of respondents have between 1501 and 2000 € and in terms of education 84.9 per cent have a degree/master.

TABLE 1: Sample Descriptives.

<i>Variables</i>	<i>Descriptive</i>	<i>Frequency</i>	<i>Percent (%)</i>
Gender	Male	123	44.1
	Female	156	55.9
Age	Until 35 years	108	38.7
	More than 35 years	171	61.3

<i>Variables</i>	<i>Descriptive</i>	<i>Frequency</i>	<i>Percent (%)</i>
Income	Until 1000 €	47	16.9
	1001-1500 €	49	17.6
	1501-2000 €	58	20.9
	2001-2500 €	29	10.4
	2501-3000 €	29	10.4
	3001-3500€	25	9.0
	More than 3500 €	41	14.7
Education	Below High School	7	2.6
	High School	35	12.5
	Degree/Master	237	84.9

n=279

Principal Component Analysis (PCA) was used to obtain preliminary results on the dimensionality of the constructs. Thus, PCA was performed to assess the ability of the indicators to measure the constructs theoretically presented. PCA for each construct with varimax rotation was performed with all items.

Then, Kaiser–Meyer–Oklin Measure (KMO) of sampling adequacy was assessed. Hutcheson & Sofroniou (1999) suggested that KMO values between 0.7 and 0.8 are good and the result of our factor analysis reveals good KMO values (range from 0.723 and 0.803).

Bartlett’s Test of Sphericity reveals good approximated Chi-Square values with a significance values of 0.000, which means that the factorability of our correlation matrix is suitable.

The PCA revealed the presence of three components, being one component for each construct with eigenvalues greater than one which explained up to 67.67 of the total variance. Details regarding the total variance explained are provided in Table 2.

TABLE 2: Principal Component Analysis – Total Variance Explained.

<i>Component</i>	<i>Initial Eigenvalues</i>			<i>Rotation Sums of Squared Loadings</i>		
	<i>Total</i>	<i>% of Variance</i>	<i>Cumulative %</i>	<i>Total</i>	<i>% of Variance</i>	<i>Cumulative %</i>
1	5.66	43.56	43.56	5.66	43.56	43.56
2	1.89	14.54	58.11	1.89	14.54	58.11
3	1.24	9.56	67.67	1.24	9.56	67.67

As per Table 3, all the items were aggregated around the factor that was supposed to measure, given the correlations between the observed variables and factors (loadings). The component 1 is composed by the items of Green Purchase Behaviour, the component 2 includes the items that belong to Environmental Concern and the component 3 is composed by the items of Health Consciousness.

TABLE 3: Principal Component Analysis – Total Variance Explained.

	<i>Component</i>		
	1	2	3
I buy "environmentally friendly" products whenever possible.	0.85	0.23	0.16
I have the concern to reduce waste at home whenever possible.	0.80	0.26	0.01
I use products made from recycled materials whenever possible.	0.77	0.28	0.13
I buy organic food products whenever possible.	0.75	0.18	0.20
I try to recycle waste at home whenever possible.	0.72	0.27	0.09
I would be willing to reduce my consumption patterns to protect the environment.	0.17	0.80	0.15
I intend to change my consumption patterns to protect the environment.	0.29	0.75	0.19
I am concerned about the environment.	0.27	0.88	0.13
I have asked my family to recycle some of the products we use.	0.36	0.72	0.11
I would be able to donate some money to contribute to the protection of wildlife.	0.13	0.88	0.01
There are fewer side effects to my health when I use / consume these products.	0.13	0.62	0.88
These products are better for my health than regular ones.	0.15	0.14	0.87
These products are good for my health.	0.11	0.15	0.85

The indices Environmental Concern, Health Consciousness and Green Purchase behaviour were created with the average of the items. As per Table 4, the descriptive analysis shows that environmental concern, health consciousness and green purchase behaviour averages are all above 5, meaning that respondents are green consumers. The Alpha Cronbach's of the scales used are above 0.7, which is good (Hair et al., 1998).

TABLE 4: Descriptives and Reliability.

	<i>Mean</i>	<i>Standard Deviation</i>	<i>Cronbach's Alpha</i>	<i>N of Items</i>
Environmental Concern	5.89	0.87	0.787	5
Health Consciousness	5.38	1.08	0.801	3
Green Purchase Behaviour	5.37	1.26	0.885	5

In order to test the direct relations of H1, H2, H3 and H4a) linear multiple regression was performed (Table 5).

The model presents an R^2 of 0.242, which means that 24 per cent of purchase behaviour of organic food is explained by environmental concern and health consciousness. The F-test is significant ($p < 0.01$)

Regarding H1, the results show that environmental concern has a positive and significant with green purchase behaviour ($\beta=0.457$; $p=0.000$) as predicted. H2 is also verified and health consciousness has a positive and significant with green purchase behaviour ($\beta=0.105$; $p=0.048$). Regarding H3, the results indicate that environmental concern is stronger ($\beta=0.457$) than health consciousness ($\beta=0.105$) to explain green purchase behaviour and H3 is not verified.

H4a) is verified and age influences green purchase behaviour ($\beta=-0.105$; $p=0.047$). The standardized coefficient for age ($\beta=-0.105$) means the difference between younger consumers (group 1) and older consumers (group 2), which means that younger consumers buy -0.105 than the older consumers.

TABLE 5: Linear Regression.

	<i>Dependent Variable: Green Purchase Behaviour</i>		
	<i>Standardized Coefficient</i>	<i>t-value</i>	<i>p-value</i>
<i>Independent Variables:</i>			
<i>Environmental Concern</i>	0.457	8.614	0.000*
<i>Health Consciousness</i>	0.105	1.984	0.048**
<i>Age (1=Until 35 years; 0 = More than 35)</i>	-0.105	-1.996	0.047**
F test = 31.209 *			
$R^2 = 0.255$ *			

* $P < 0.01$; ** $P < 0.05$

In order to test H4b) Levene's test (Table 6) and ANOVA (Table 7) was performed. The one-way ANOVA was used to determine whether age was significantly different between the groups. As per Table 7, we can observe that there are significant differences between the two groups ($p=0.013$) regarding green purchase behaviour, and H4b) is verified.

For the dependent variable (green purchase behavior), an analysis of variance is performed on the absolute deviations of values from the respective group means. When we compare the means we can see that older consumers (more than 35 years) have a higher green purchase behavior than younger consumers (Table 6).

TABLE 6: Levene's Test.

	N	Mean	Standard Deviation	95% Confidence Interval for Mean	
				Upper Bound	Lower Bound
More than 35 years	171	1.0070	0.53880	0.04120	0.9257
Until 35 years	108	0.8189	0.70076	0.06806	0.6839
Total	279	0.9350	0.61157	0.03675	0.8627

TABLE 7: Anova.

	Sum of Squares	df	Mean Square	F	p-value
Between Groups	2.316	1	2.316	6.313	0.013
Within Groups	100.914	275	0.367		
Total	103.230	276			

6. Conclusions

The aim of this study was to better understand why consumers buy organic products, more specifically the influence that environmental concern, health consciousness and age have on the purchase behaviour of Iberian consumers. And then, to understand which group (young or elder) do have more purchase behaviour of organic products. In this final section we discuss practical implications, limitations and future research.

Results of the present study have demonstrated that environmental concern, consciousness and age have a significant relation with green purchase behaviour.

Environmental attitudes have a positive relation with green purchase behaviour, meaning that the higher environmental concern is, the higher will be green purchase behaviour. Other studies also confirmed the relation between environmental attitudes and green purchase behaviour (Kim & Choi, 2005; Kim & Chung, 2011, Paladino, 2005). Health consciousness is also confirmed as having a positive relation with green purchase behaviour as expected. The results are alligned with other authors (Krystallis & Chrysohoidis, 2005; Goetzke et al., 2014; Hauser et al., 2011; Padel & Foster, 2005; Wier et al., 2008).

Results have indicated that environmental concern is stronger than health consciousness to explain green purchase behaviour. These results are aligned with FiBL & IFOAM (2015) report that indicates that in Europe environmental concern is the main reason why consumers buy these products. This means that although healthy reasons are important, consumers that regularly buy organic products are more motivated by environmental concern.

Finally, the findings have shown evidences that age is also a predictor of green purchase behaviour and older consumers, maybe due to their higher purchase power compared with younger are more engaged with green purchase behaviour.

For managers and marketers, the study helps to contribute to understand that environment, together with health consciousness are key reasons why consumers buy organic products. According to EU guidelines (2015) "organic" implies a method of production that aims to produce high-quality products and the use of processes that do not harm the environment, or human, plant or animal health and welfare. Consumers are more environmentally concerned and pay more attention to aspects related to how products are made, its origin, its packaging (if it is recycled or not) and also animal welfare (Ottman, 1993). It is important for marketers to provide this information to consumers, for example in the labels of investing on point of sales materials that enable consumers to access to the production methods, raw materials, place of origin, carbon footprint in a more transparent way. This might foster their purchase behavior, since they environmental concern is important for them.

Health is also an important driver and as previous researches indicate consumers distinguish organic food as having a higher vitamins and minerals content than conventional products (Lea and Worsley, 2005). The present study shows that consumers perceive green products as products with superior quality and there is a positive association with health. This means a great opportunity for green products to stand out from others. The perceived quality associated with green products, especially the ones subjected to the present study is increasing also due to the trend that exists throughout the world related with the consumption of biological/organic products associated with health concerns, animal welfare considerations and concern about the environment. Therefore, managers should implement tactics that enable consumers to understand the differences between green products and conventional ones enhancing health as a key factor. Exogenous factors as certification in quality, product labels and package that highlight nutrition values (regarding to food/beverage) and health benefits, information about production process, etc. might thereby enable consumers to more clearly assess product benefits for health.

Age is also a predictor of green purchase behaviour and it is aligned with some previous studies (D'Souza, Taghian & Khosla, 2007; Memery et al. 2005; Samdahl & Robertson, 1989). As evidenced by GfK (2014) older people (more than 35 years) engage in purchase behaviour of organics maybe due to their higher purchase power. For managers and marketers this evidence is important for better segmentation and targeting of the campaigns, since results might suggest that campaigns that target consumers environmentally concerned and health conscious with more than 35 years might be more effective and drive better sales results.

To sum up, in order to successfully respond to increasing organic food market demands, marketers and managers should understand the reasons why consumers purchase organic food over conventional food and adjust marketing strategies accordingly. The health and environmental benefits of organic products should be strengthened to increase purchase behaviour, specially environmental ones. Age should also be considered, with emphasis on consumers older than 35 years.

This research presents a number of limitations due to a limited and non-representative sample. Results have to be replicated on wider and more representative sample. For future studies, it is interesting to explore the differences that might exist between green consumers and non-green consumers as well as to include other motivators such as safety or performance.

7. References

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