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Healthy Eating Habits for Food Industry in Portugal

Hábitos Alimentares Saudáveis para a Indústria Alimentar em Portugal

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Abstract

The changes in the eating habits are leading to and increase interest by the consumers regarding organic food making important to understand how consumers see these products and what are the main drivers behind their decision to consume them or not and how the market of organic food can provide an offer that can provide and sustainable growth. The focus of this investigation was to understand the opinion of the Portuguese consumers in relation to organic foods. To achieve this the research uses descriptive and content analysis to drive results from a sample of 282 questionnaires and 15 interviews. The results showed that the implication that organic food can have in health is the main factor for consumers to choose to buy and consume this type of food and that high prices is the main barrier for not consuming it. The insights provide by this study will give managers of this sector a understanding of the consumers expectations and thar will how to define better strategies to assure a sustainable organizational growth.

Keywords: Business strategy; Healthy eating; Organic food; Food retail; Consumption factors.

JEL Code: H50: General; H51: Government Expenditures and Health; I12: Health Behavior; J1: Demographic Economics

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Resumo

As mudanças nos hábitos alimentares têm aumentado o interesse dos consumidores pelos alimentos orgânicos tornando importante entender como os consumidores veem esses produtos e quais são as principais motivações da sua decisão de consumi-los, ou não, e como o mercado de alimentos orgânicos pode proporcionar uma oferta para proporcionar um crescimento sustentável. O foco desta investigação foi compreender a opinião dos consumidores portugueses em relação aos alimentos biológicos. Para tanto, a pesquisa utiliza análise descritiva e de conteúdo para gerar resultados a partir de uma amostra de 282 questionários e 15 entrevistas. Os resultados mostraram que a implicação que os alimentos orgânicos podem ter na saúde é o principal fator para que os consumidores optem por comprar e consumir esse tipo de alimento e que os preços elevados são a principal barreira para não os consumir. Os dados fornecidos por este estudo permitirão, aos gestores deste setor, uma maior compreensão das expectativas dos consumidores e definirem, melhores estratégias para assegurar um crescimento organizacional sustentável.

Palavras chave: Estratégia empresarial; alimentação saudável; alimentação biológica; retalho alimentar; fatores de consumo.

JEL Code: H50: General; H51: Government Expenditures and Health; I12: Health Behavior; J1: Demographic Economics

1 - INTRODUCTION

With the growth of the organic food market sector the factors that in a way, are directly or indirectly linked to the consumption levels of this type of food need to be understood since healthiness is a critical factor influencing the success of food-related businesses (Hur and Jang, 2015). To better understand this market, it is necessary to identify and understand the opinions of consumers in relation to organic food, as suggested by Ditlevsen, Sandøe and Lassen (2019). At a micro level it is also necessary to identify the factors and barriers associated with consumption, and at the same time try to identify consumer expectations and new types of food that are seen as current or short-term needs. On the other hand, at a macro level, it is important to identify new business opportunities for managers in this market sector to obtain a sustainable competitive advantage for their businesses.

Studies in Portugal regarding organic food are practically non-existent or, if they do indeed exist, they are not properly disclosed to the wider business or academic community. It is therefore important to strengthen and deepen research within the area and allow, as it already happens in other countries for a better understanding of this type of food – Table 1.

The focus of this investigation will be to understand the opinion of consumers in relation to organic foods, with the main research objectives being:

1: To verify the opinion of respondents on organic food as perceived by consumers and to understand which factors influence their consumption;

2: To determine which alternative to conventional foods should be explored in the organic food market.

In this sense, and framed in these two objectives, this investigation will be supported by four research questions:

Q1: What is the opinion of respondents regarding organic food?

Q2: What are the main factors that lead to consuming this type of products?

Q3: What are the main factors that lead to not consume this type of product?

Q4: What organic foods, non-existent or with limited availability, would you like to see on the market?

For a feasible understanding of the study, this article will first present a theoretical framework on the subject, followed by the presentation of the basic methodology that substantiates it, then the presentation and discussion of the results associated with the previously referenced research questions will be carried out, and finally, some final considerations about this study are presented.

Table 1 – Studies regarding organic food in different countries

Article	Authors	Description/Conclusions Location, year	Country, year
Who buys organic food? A profile of the purchasers of organic food in Northern Ireland.	Davies, A., Titterington, A. J., & Cochrane, C.	Based on a series of studies based on purchase and demand patterns for organic foods. The researchers concluded that the main reasons that lead consumers to want to buy this type of products are their health and concern for the environment, as these are sustainable foods. On the other hand, the researchers also concluded that the main barriers to the purchase of these foods are high prices and lack of stock of some types of products. Out of curiosity, the researchers drew a profile of consumers: female consumers with children, between 30 and 45 years old and with high incomes.	Northern Ireland, 1995
Food safety and organic fruit demand in Italy: a survey	Canavari, M., Bazzani, G. M., Spadoni, R., & Regazzi, D.	This investigation studies the behavior of consumers in relation to organic fruits. In this study, the behavior of consumers in relation to organic foods is analyzed, studying the price, quantity and quality. The researchers found that, for example, 30% of consumers prefer to pay more for a particular organic product by going directly to farmers and sellers.	Italy, 2002
A multivariate statistical analysis on the consumers of organic products.	Chinnici, G., D'Amico, M., & Pecorino, B.	A survey was carried out to understand the purchase and price sensitivity of organic products in relation to the preferences expressed by consumers regarding the benefits associated with their consumption. The researchers concluded that a segment of consumers bought this type of food out of curiosity and also to remember the past. The study shows that the main factor for buying these products is that is seems healthier.	UK, 2002
What motivates consumers to buy organic food in the UK? Results from a qualitative study.	Makatouni, A.	In this investigation, the means-end chain theory was used to better understand what drives consumers to buy organic food in the UK. The key idea is that product features are a means for consumers to get the end they want. One of the conclusions of this study was that animal welfare is one of the main purchase factors for organic food consumers.	UK, 2002
The European consumers' understanding and perceptions of the "organic" food regime: The case of aquaculture	Aarset, B., Beckmann, S., Bigne, E., Beveridge, M., Bjorndal, T., Bunting, J.	This study addresses aquaculture, but is directly related to organic foods. The authors concluded that consumers are not well-informed regarding organic products because there is a great lack of information available about it. The same authors state that there is clearly space and need for further investigation in the area under study.	UK, 2004

Source: Elaborated by the authors

2 – THEORETICAL APPROACH

2.1 Features of organic food

Organic food, synonymous with "high quality" and "healthy" (- AGROBIO, 2017) is produced without the use of pesticides, preservatives, and chemicals. Farmers focus on the use of land management practices considering the atmospheric conditions of each region, promoting their sustainability (- FAO, 2012).

In nutritional terms, organic food proved to be far superior compared to conventional food (Benbrook *et al*., 2008). Second, according to the Food Standards Agency (FSA), there is no evidence that shows organic foods as being superior to conventional food in nutritional terms.

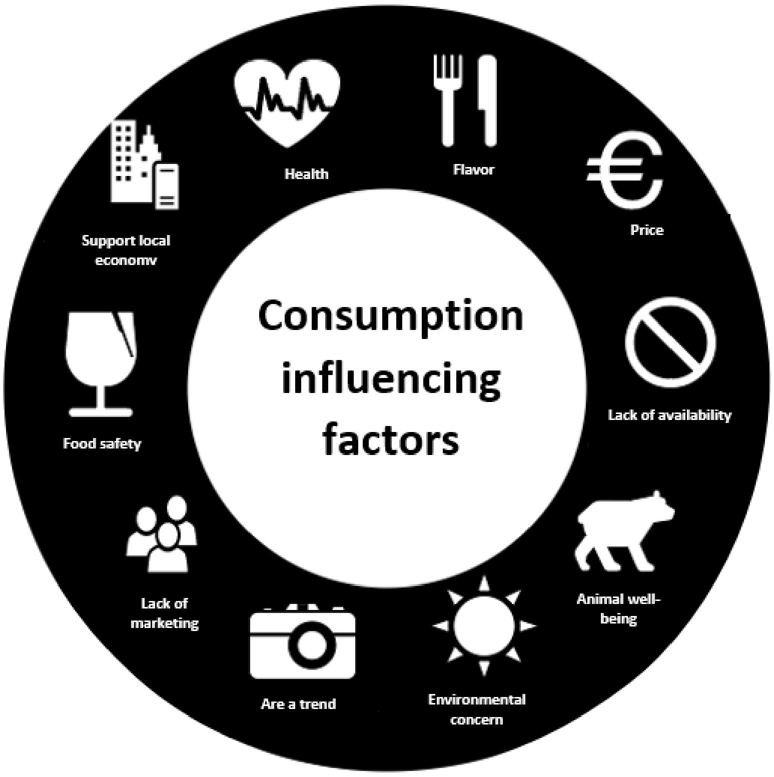
The Agence Française de Sécurité Sanitaire des Aliments (AFSSA, 2013) reports that organic food in comparison to conventional one present a greater number of benefits (Lairon, 2011). When it comes to taste, organic food seems to be tastier compared to conventional food (Bourn D and Prescott J, 2002).

According to Azevedo (2012) the price of organic food can vary between 20% to 100% more, compared to conventional food. This is due to the law of supply and demand. According to the author, there is a weak demand for organic food, which leads to weak market competitiveness. It is therefore important to promote organic farming to ensure an increase in demand and supply with more competitive prices for consumers.

2.2 Factors influencing the purchase and consumption of organic food

Several influencing factors were identified in the consumption of organic foods, which are divided into factors that lead to purchase and consumption and barriers in the purchase and consumption of this type of food – figure 1.

Figure 1 - Factors influencing consumption



Source: Elaborated by the authors

To obtain these 10 factors about what influences consumption, a survey was carried out where certain factors were defined as factors that lead to the purchase and consumption of organic food and others as barriers to the purchase and consumption of this type of food.

The overwhelming majority of studies that have been developed point to "health" as the main reason for consumers to buy organic food (Tregear *et al*., 1994; Hutchins & Greenhalgh, 1995; Huang, 1996; Schifferstein & Ophuis, 1998; Chinnici *et al*., 2002; Zanoli & Naspetti, 2002). However, Ditlevsen, Sandøe and Lassen (2019) also found that purity was the most employed term by consumers as a definitive argument in supporting claims about healthy eating. Consumers buy and prefer organic food because their desire is to avoid chemicals used in conventional food production (Ott, 1990; Jolly, 1991; Wilkins & Hillers, 1994; Mamun, Hayat & Zainol, 2020). The health that organic foods convey is a quality parameter for many consumers (Wandel & Bugge, 1997; Magnusson *et al*., 2001). Some studies have found that consumers believe organic food is more nutritious (Jolly, 1991; Hill & Lynchehaun, 2002). Although to date, there is no evidence to conclude that organic food is more nutritious (Williams, 2002). Magnusson (2003) found that concern for health is what leads consumers to buy more organic food instead of worrying about environmental issues and that each individual interests end up being superimposed over altruism when it comes to purchasing of organic food.

Another factor is "taste". Several studies have found "taste" to be amongst the most important criteria when purchasing organic food (Roddy *et al*., 1996; Schifferstein & Ophuis, 1998;

Magnusson *et al*., 2001). Hill and Lynchehaun (2002) believe that because organic food is generally more expensive and lead consumers to understand that these products are of higher quality than conventional food, which dictates their perception of taste. Interestingly, Fillion and Azari (2002) carried out several tests where they proved 2 types of food: an orange juice and milk, both conventional and organic. The blind test proved that organic orange juice was the most chosen product, since the testers mentioned that it had a better flavor compared to conventional orange juice. However, no differences were found between organic and conventional milk. The authors concluded that the statement "organic food tastes better" is not always valid and depends on the category of organic food. However, organic food consumers realized the advantages of flavor over conventional alternatives.

Environmental concern was identified as one of the factors, in several studies, that promoted consumers to choose organic food (Roddy *et al.*, 1996; Wandel & Bugge, 1997; Squires *et al.*, 2001; Soler *et al.*, 2002). Organic food consumers consider chemicals and pesticides used in conventional food products to be harmful to the environment, while organic foods are considered to be environmentally friendly (Jolly, 1991; Wilkins & Hillers, 1994). Although concern for the environment has been shown to have a notable influence on consumer attitudes, many studies have found that this is not a determining factor when purchasing organic food. Nutrients, flavor, and perceptions of "health" that one has of organic foods are the most important factors in the purchase of these products (Mitsostergios & Skiadas, 1994; Tregear *et al*., 1994; Shifferstein & Ophuis, 1998; Zanoli & Naspetti, 2002; Magnusson *et al*., 2003).

Concern for food safety was also identified as one of the reasons for purchasing organically produced food (Jolly, 1991; Schifferstein & Ophuis, 1998; Soler *et al.*, 2002). Food-related illnesses such as mad cow disease and salmonella are also concerns regarding conventional food production methods. One study even found that after September 11th terrorist attacks in the United States, American respondents showed a greater interest in buying organic food (- OCA 2001). Some research demonstrates that consumers find organic farming methods safer than conventional farming (Lacy, 1992; Kouba, 2003). It should be noted that many studies do not clearly define what "food security" is (e.g., Squires *et al.*, 2001), leaving respondents to interpret this concept their own way. Vecchio and Cavallo (2019) also found that "while most efforts have been devoted towards educational and information campaigns targeted to final consumers, recently policy makers are testing the possibilities offered by alternative approaches – based on behavioral economic theory – which subtly guide consumers toward the more desirable choices, despite the presence of unhealthy options" (p. 16).

Concerns about animal welfare in organic food production systems also lead consumers to opt for an organic diet, although this factor is not as relevant compared to concerns about health and the environment (Hill & Lynchehaun, 2002; Aarset *et al.*, 2004). Animal welfare is a multilevel theory that contains both nutritional and social components. It is used by respondents as an indicator of food quality and safety, and human treatment of animals (Torjusen *et al.* 2001; Harper & Makatouni, 2002). McEachern and Willock (2004) identified 4 factors in consumer attitudes towards organic meat: meat safety, animal welfare, quality assurance and information sources topics, but it should be noted that this cannot be generalized to other food categories.

Another identified factor was support for the local economy. Some surveys have found that people who choose to buy organic food believe it will support the local economy. This ideology reflects the belief that organic foods are grown locally and in small spaces by local farmers. Interestingly, Fotopoulos and Krystallis (2002) observed that Greek consumers of organic food have ethnocentric tendencies regarding food.

Finally, Schifferstein and Ophuis (1998) found that consumers perceive organic food to be healthier. However, it is not entirely clear what respondents mean by "healthy". According to Hill and Lynchehaun (2002) some people realize now that organic food is a trend due to advertising campaigns, the coverage given by information sources and high prices associated with this type of food. Chinnici *et al.* (2002, p.194) found a segment of consumers who buy organic food just out of curiosity and identified a "nostalgic" segment of respondents who "associate the consumption of organic products with the authenticity and tastes of the past". The reasons why consumers buy organic food may differ between countries and may change over time (Davies *et al*., 1995). Squires *et al*. (2001, p. 9) found that "an understanding of macro-environmental elements such as health care and public education programs as well as market characteristics" is needed. Health is considered as the main reason for consumers to buy organic food.

On the other hand, in relation to barriers to the purchase and consumption of this type of food, the following factors were also identified: The high price of organic foods was the main barrier to their purchase (Byrne *et al.,* 1992; Tregear *et al*., 1994; Roddy *et al*., 1996; Magnusson *et al*., 2001; Zanoli & Naspetti, 2002). A survey found that consumers are willing to pay more for foods that are organically grown. However, many are unwilling to pay as much as current market prices (Millock, 2003). Few studies have analyzed the factors that influence willingness to pay. Soler *et al*. (2002) found that this same willingness increases when consumers receive reference price information for their conventionally produced counterparts. They also found that when consumers received information about a given organic product verbally, rather than a mere information leaflet, their willingness to purchase increased.

This willingness to pay a higher price for organic products has decreased with age and has increased when consumers' greatest concerns are related to the environment, food safety and the presence of younger children in the family environment (Canavari *et al*., 2002; Soler *et al*., 2002). The high prices associated with organically produced food result in ambiguous interpretations by consumers. While consumers say that the high price of organic food does not allow their purchase, they use price to define opinions about the quality and taste of organic food (Canavari *et al*., 2002; Soler *et al*., 2002).

Hill and Lynchehaun (2002) mention that, the different opinions about the taste of organic milk as being different from conventional milk, were based on consumer perceptions, i. e. higher prices meant better quality and therefore better taste. Canavari *et al.* (2002) found that 30% interviewed consumers in a conventional Italian supermarket prefer to buy and pay more for organic products and go directly to farmers.

The lack of availability associated with the purchase of organic food is presented as another obstacle (Zanoli & Naspetti, 2002). This is due to the lack of supply and organic farming focused on producing organic food. Despite this, only 29% of the population in the UK claimed to have never purchased organic food (Mintel, 1999).

Lack of marketing actions aiming at organic food is also pointed out as a barrier. There are several studies that seem to indicate that organic food is not being sufficiently advertised and marketed. Lack of knowledge of organic food, scarcity in marketing these foods and ineffective retail strategies negatively influenced consumers (Roddy *et al.,* 1996, Chryssochoidis, 2000; Poelman, et al., 2018). Interestingly, Hill and Lynchehaun (2002) found that the origin of organic milk was a very important factor for consumers who regularly purchased organic food.

"All consumers agreed that they would prefer organic milk to be placed alongside standard conventional milk – the reasons were to be able to compare prices and generate habitual buying behavior" (Hill & Lynchehaun, 2002, p. 537). Respondents also reported that they found organic milk packaging unappealing and liked packaging that was "shinier, more modern and colorful" (Hill & Lynchehaun, 2002, p. 537). Interestingly, all the studies mentioned price as main reason to not buy organic food, and as a reason to purchase it, health reasons were predominant.

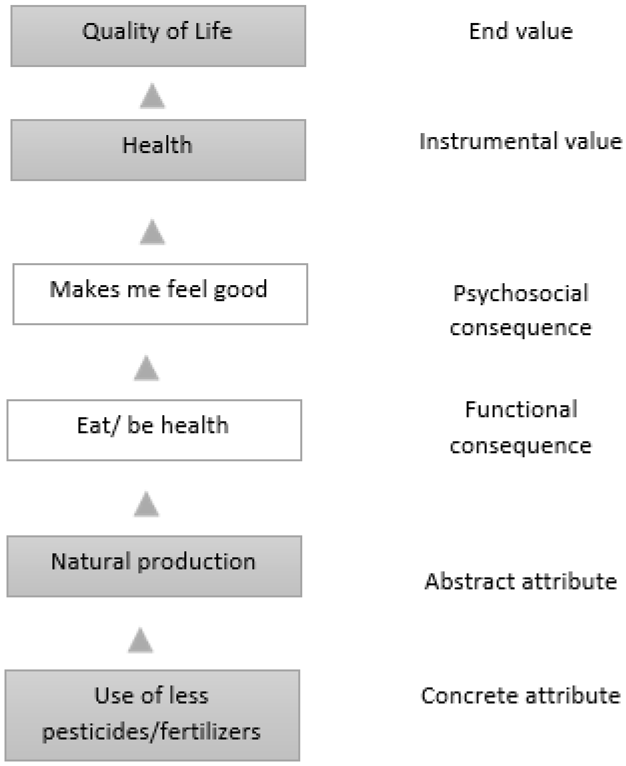
2.3 Means-end chain theory

The use of the means-end chain theory (MEC Theory) model has been very useful to understand consumer behavior. This model aims to study the purchasing behavior of consumers and what drives them to make decisions.

This theory was developed by Gutman (1982) was based on the assumption that consumers see products as a means to achieve an ultimate goal. The theory indicates that the consumer observes a given product hierarchically, containing several levels of abstraction. The consumer can know a product by its characteristics by its benefits/harms and by the personal values that it transmits. That is, the more we can know the hierarchical structure defined by each consumer in relation to a given product, the more knowledge we will have about the product's relationship with the consumer and vice versa (Reynolds *et al*., 1995; Ali, 2021).

Next, a hierarchy is presented where attributes are separated into concrete and abstract consequences, then functional and psychosocial and values, finally instrumental and terminal values. This hierarchical structure can be seen in figure 2.

Figure 2- Example MEC Theory model



Source: Adapted from Zanoli (2002)

This model may be understood as a process for solving a problem. Consumers make their choices according to the specific attributes of a given product to achieve a purpose, in this case a benefit. For example, in the case of organic food the attribute "produced without pesticides/chemicals" will be the means to the end, in this case the benefit "Health and well-being" (Gutman, 1982). Looking at the figure we have the concrete attribute, which is tangible; the abstract attribute, which is intangible; the functional consequence, the tangible results of consuming a product; the psychosocial consequence, the results of consuming a product as opinions formed about it; instrumental values, the behavior to have to reach the terminal value; and finally, the terminal values, which represent the "end" and objective to be achieved (Zanoli, 2002).

In relation to healthy eating, it is important to mention that this hierarchical model can be important to determine what makes a consumer want to adopt or not a healthy lifestyle by purchasing of organic food and by the consumption of healthier food. With this it is possible to build strategies for the development and growth of this market and meet the needs and expectations of consumers.

2.4 Organic food market

It's hard to say with confidence how big the global organic food market really is. One certainty is that it has grown considerably and is often considered one of the biggest growing markets in the food industry – table 2.

Organic agriculture, which leads to the production of this type of food, occupies more than 50 million hectares (IFOAM, 2017). Compared to 2011, the number of organic food producers rose from 1.8 to 2.4 million.

In the United States, sales have grown from 78 million in 1980 to approximately 6 billion in 2000 (Miller, 1996; McDonald, 2000), with an average annual growth of 24% during the 1990s (OTA, 2001). In 2003, sales of organic food in the United States grew approximately 20% to reach 10.4 billion (IFOAM, 20017). While conventional farming is decreasing, organic farming is growing 12% a year. Farmers of this type of food are also receiving more government aid and this is likely to grow in the future (McDonald, 2000; Vecchio and Cavallo, 2019).

The growth of the organic food market can be seen throughout Europe, since there is already double the demand in relation to the supply (Ferreira, 2015). Despite the growth, Portugal still has very low levels of production: the production of organic cereals is almost non-existent.

Table 2- Temporal evolution of the organics market in the world

Years	2009	2010	2011	2012	2013	2014	2015	2016
Size of the organic market in dollars (billions)	54.9	59	62.9	63.8	73	80	81.6	92
Size of organic farmland in hectares (millions)	78.2	80	39.7	67.2	78.2	83.3	90.6	50.9

Source: adapted from IFOAM (2017)

3 – METHODOLOGY

3.1 Theoretical contextualization

Depending on the content and what some authors mentioned, research questions arose considering the research objectives.

The first question – According to the bibliographic reference we can identify organic food as high-quality foods (AGROBIO, 2017), promoters of soil sustainability (FAO, 2012) and nutritionally superior (Benbrook *et al*., 2008). It is important to understand the extent to which Portuguese consumers are in agreement with what is referred to by the authors, and what is their level of agreement regarding certain points such as taste, non-use of chemicals, price, presentation, quality and the level of confidence and ease in identifying this type of food (Roddy *et al*., 1996; Chryssochoidis, 2000; Bourn & Prescott , 2002; Hill & Lynchehaun, 2002; Makatouni, 2002; Lairon, 2011; FAO, 2012; Azevedo, 2012; AFSSA, 2013).

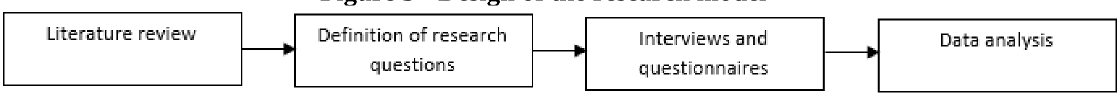
The second and third question - Emerged from pointing out different factors, positive or negative, by various authors and, similarly to the means-ends chain theory, aims to understand the main factors in relation to the market of organic food in Portugal.

The fourth question – consider that this is a growing market (IFOAM, 2017), with an annual average of 12% growth per year (McDonald, 2000) and that it is trendy (Hill & Lynchehaun, 2002), it is important to understand what types of food exist in the Portuguese market, and which ones could be available according to wishes and needs of consumers.

3.2 Research model

Through figure 3, it is possible to briefly understand the steps in defining the methodology followed for the development of the investigation.

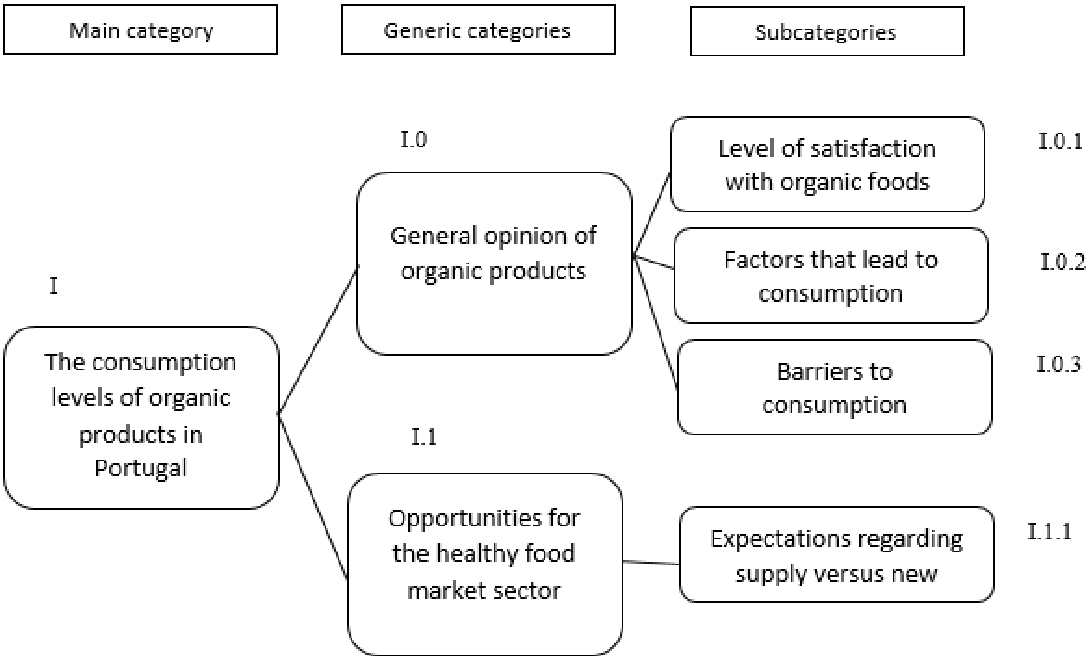
Figure 3 - Design of the research model



Source: Elaborated by the authors

Briefly, the first step of this investigation was a bibliographical research and information treatment. After that, and with the maximum knowledge synthesized and acquired on the subject under study, the research objectives and research questions to be investigated were reformulated. Then, the collection of information was carried out with the aid of questionnaires and interviews to answer the research questions mentioned above. Finally, a qualitative analysis of the data from the sample was performed, categorizing, and defining the corpus of the interview (figure 4). For this, the statistical data derived from the questionnaires were compared with the data reproduced in audio resulting from the interviews, which led to the obtaining of answers to the research questions and the construction of new theories on the subject combined with empirical data within the scope of the theme healthy eating that can provide guidance for managers in the food sector or for a future and new analysis.

Figure 4- Categorization and codification of the "corpus" of the interview for qualitative analysis



Source: Elaborated by the authors

The first category I.0 is associated to verifying the opinion about organic food by consumers and understanding which factors influence their consumption. Its subcategories are associated with some research questions. Subcategory I.0.1 is linked to question Q1 and subcategories I.0.2 and I.0.3 are linked to questions Q2 and Q3, respectively, to understand the opinion that the sample has about organic food. And, finally, category I.1 is associated with the objective of realizing which alternatives to conventional foods should be explored in the organic food market, with its subcategory I.1.1 being associated with research question Q4, to see if there are any market opportunities for this type of food.

3.3 Sample description

Regarding the sample of this investigation, surveys were applied with a convenience sample of 15 interviews with a structured interview script, to regular practitioners of physical activity and questionnaires with open and closed questions to 282 subjects, from Portugal and the Islands – table 3.

Table 3 - Geographical composition of the 282 observations of the sample of the questionnaires applied

Region	Number	Percentage
North	45	16%
Centre	197	69,9%
South	32	11,3%
Islands	8	2,8%
Total	282	100%

Source: Elaborated by the authors

The Centre region is the most prominent in the sample subjects with 69.9% while the North and South regions have a lower incidence. It can also be said that the Islands represent a very small percentage for conclusions to be drawn about this region.

Regarding gender, the sample is characterized by being representative of a group of respondents, to a greater extent, female, with 72%, the rest being male with 28%.

Regarding the educational qualifications of the respondents, 5 categories were defined: Basic Education, Secondary Education, University degree, Master/PhD and Others – table 4.

Table 4- Educational qualifications of respondents

Education	Number	Percentage
Basic	5	1,8%
Secondary	92	32,6%
University degree	137	48,6%
Master/PhD	41	14,5%
Others	7	2,5%
Total	282	100%

Source: Elaborated by the authors

Observing the table, it is possible to see that the qualifications of the respondents with the greatest predominance are University degree, followed by Secondary Education and Masters/PhD.

As for the age variable, 3 of the respondents are 17 years old or younger, 187 are between 18 and 35 years old, 62 are between 36 and 50 years old and the rest are between 51 and 65 years old. For a better understanding of the results, 4 age categories were defined: Young, Young Adults, Adults, Pre-Elderly – see table 5.

Table 5- Categories and age of respondents

Category	Age range	Number	Percentage
Young	17 or less	3	1,1%
Young Adults	18 a 35	187	66,3%
Adults	36 a 50	62	22%
Pre-Elderly	51 a 65	30	10,6%
Total		282	100%

Source: Elaborated by the authors

It appears that most subjects in the sample are young, followed by adult subjects and pre-elderly.

In conclusion, and analyzing the variables that characterize the sample, the region with the highest percentage is the Centre (69.9%), gender is female (72%), educational qualification is a degree (48.6%) and, finally, the category that defines the age is young adults (66.3%).

4 – PRESENTATION AND DISCUSSION OF RESULTS

4.1 Considerations about organic food

Performing a more detailed analysis of the opinion of each respondent and, later generalizing the results, they state that organic food is a high-quality food, tastier, more expensive, without the use of chemicals, with a carful presentation and distinguishable.

Based on an analysis of the questionnaires, it can be said that the sample agrees that organic food has “higher quality”, “tastier”, “without chemicals”, and “which can be distinguished from conventional food”. The same sample does not agree, however, that this food has a carful presentation, and that being more expensive does not mean higher quality.

Comparing the results obtained through the interviews with the results obtained from the questionnaires, we can verify the harmony of the responses obtained - table 6.

Table 6- Comparison between the opinions of respondents with that of respondents in relation to organic food

Questionnaires \ Interviewees	Quality	Flavor	Non- chem-icals	Price	Presentation	Differentiation
Quality	✓					
Flavor		✓				
Non- chemicals			✓			
Price				✓		
Presentation					✕	
Differentiation						✓

Source: Elaborated by the authors

Table 6 shows that the opinion of both is very similar, except for the presentation factor.

These results agree with what was mentioned by several authors. In relation to quality and, considering that the sample agrees that the food has superior **quality**, it goes against what was mentioned by AGROBIO (2017) which says that this type of food is synonymous with “high quality” and “health”. Also, in relation to quality, organic food is shown to be far superior in nutritional terms compared to conventional food (Benbrook *et al*., 2008) and the Agence Française de Sécurité Sanitaire des Aliments (AFSSA, 2013) reports that organic food compared to conventional one, present a greater number of benefits: a higher content of iron and magnesium in vegetables, more vitamin C, higher amounts of beta-carotene and phytochemicals such as resveratrol and salicylic acid (Lairon, 2011).

In relation to **flavor**, it is in line with what Bourn and Prescott (2002) mention, that organic food seems to be tastier compared to conventional food. It is also important to consider emotional implications of this consumption. For example, Hur and Jang (2015) found that when consumers view a healthy meal promotion, their perceptions of healthiness negatively influence anticipated guilt, but positively influence consumers’ anticipated pleasure and behavioral intentions. The **non-use of chemicals** is another factor that agrees with what is mentioned by most authors. AGROBIO (2017) states that they are products without the use of preservatives, pesticides, and chemicals. However, and according to the respondents who reported not fully believing that this type of product does not contain chemicals and with respondents who did not agree with the non-use of chemicals, FAO (2012) indicates that organic food may contain some chemicals related to soil environmental problems and to the proximity of conventional food agricultural fields, which make use of these chemicals (Bauer, et al., 2022).

The **price** was one of the factors in which there was more agreement, being that organic food products are products with higher prices compared to conventional ones. But Azevedo (2012) states that the price of organic food can range from 20 to 100% more compared to conventional foods.

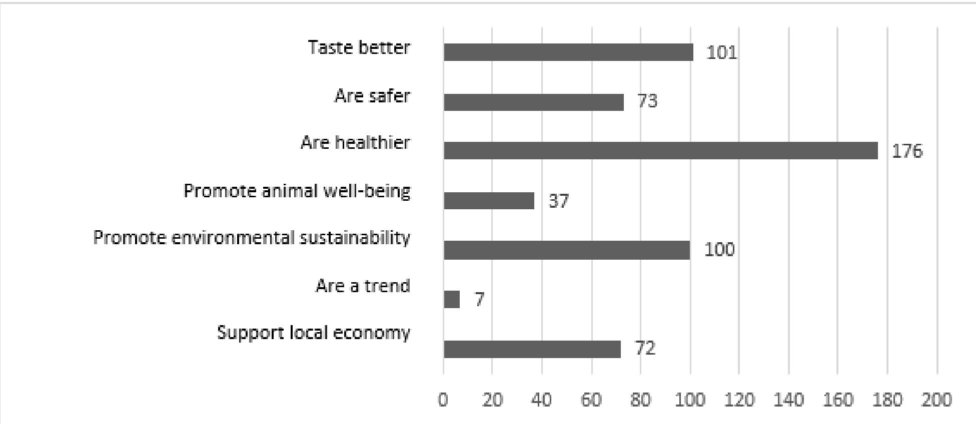
The **presentation** was the factor where there was more a disagreement. According to the interviewees, organic foods are more presentable products, while the respondents, in general, and think precisely the opposite. The opinion of the latter is in line with a study carried out by Hill and Lynchehaun (2002) organic milk packaging is unappealing, and they like more “shiny, modern and colorful” packaging, being positive, stating that organic food easily distinguishable. However, there are many who claim that they cannot distinguish this type of food (38 - questionnaires and 4 -interviews). Finally, distinguishing organic food from conventional food was generally mentioned as going against what is said by Roddy *et al*. (1996) and Chryssochoidis (2000). These authors reported that the lack of knowledge regarding organic food, the scarcity in the dissemination of these foods and ineffective retail strategies, negatively influence consumers. Makatouni (2002) also mentioned that most people do not know how to identify organic products: 21% do not know and 11% look for the word "natural" on the packaging.

4.2 Main factors for organic food consumption

Regarding the interviewees' results, 3 factors were immediately identified as the main ones: the non-use of chemicals, health, and taste. Another factor to be considered by the interviewees is the quality of the products, which according to them, and as mentioned in the previous question, are high quality products. Then the origin, which according to two interviewees "ends up promoting the local economy" and "supports organic farming and the local economy". Finally, concern for the environment is also indicated as one of the most important factors for the purchase and consumption of organic food.

Concerning the results of the questionnaires, 7 different answers were obtained. It is important to note that, for the analysis of these results, only individuals who answered affirmatively to the question "Are you a consumer of organic/biological products?" (Graph 6) were considered. Since only then, the following question could be answered accurately (Graph 5).

Graph 5- What are the main reasons to purchase organic products?



Source: Elaborated by the authors

Looking at Graph 5, we can see that **being healthier** is the main factor for buying and consuming organic food with a count of 176. Then comes **flavor** with 101 and the fact that they promote **the sustainability of the environment** with 100. **Security** and support that this type of food promotes in **supporting the local economy** comes with 73 and 72 respectively. Finally, there is **the promotion of animal welfare** with 37 and the fact that they are in **fashion** with only 7. These results align with the perspective of Rafacz (2019) who argues that the option for healthy food in not a yes or no question, rather a complex decision-making process that includes several elements.

These results, among interviewees and questionnaires, show that the main factors, health, and taste, are important for both groups. Health is considered the main factor in the consumption of this type of food (a count of 176 for respondents and 8 respondents), followed by taste and the environment (assuming that the choice focuses on the fact that no chemicals are used). Other factors such as safety, support for the local economy and animal welfare were also mentioned by both parties, but in smaller numbers. Finally, the fact that they are fashionable did not have a great weight, not being mentioned by any of the interviewees and counting only with a count of 7 among the subjects who answered the questionnaires.

Health has been identified in a wide range of studies as the main factor for the consumption of organic food (Tregear *et al*., 1994; Hutchins & Greenhalgh, 1995; Huang, 1996; Schifferstein & Ophuis, 1998; Chinnici *et al*., 2002; Zanoli & Naspetti, 2002). Some authors concluded that consumers chose this type of food to protect themselves from chemicals (Ott, 1990; Jolly, 1991). Health was also identified as one of the factors that conveyed a greater perception of the quality of these foods (Wandel & Bugge, 1997; Magnusson *et al*., 2001).

Zanoli and Naspetti stated, in 2002, that **taste** was one of the main factors that led consumers to choose organic and was among the most important criteria when purchasing these foods (Roddy *et al*., 1996; Schifferstein & Ophuis, 1998; Magnusson *et al*., 2001).

Concern for the environment was another factor identified in several studies where consumers choose to change their consumption habits (Roddy *et al.*, 1996; Wandel & Bugge, 1997; Squires *et al*., 2001; Soler *et al*., 2002). The non-use of pesticides led consumers to report that this type of food is more environmentally friendly (Jolly, 1991; Hill & Lynchehaun, 2002).

Another factor was the **safety** that organic food conveys, also mentioned by different authors, identifying safety as one of the main factors for the purchase of foods produced in naturally (Jolly, 1991; Schifferstein & Ophuis, 1998; Soler *et al*., 2002). Also in line with the sample of results, some surveys have shown that consumers consider organic farming methods safer than conventional farming (Lacy, 1992; Kouba, 2003).

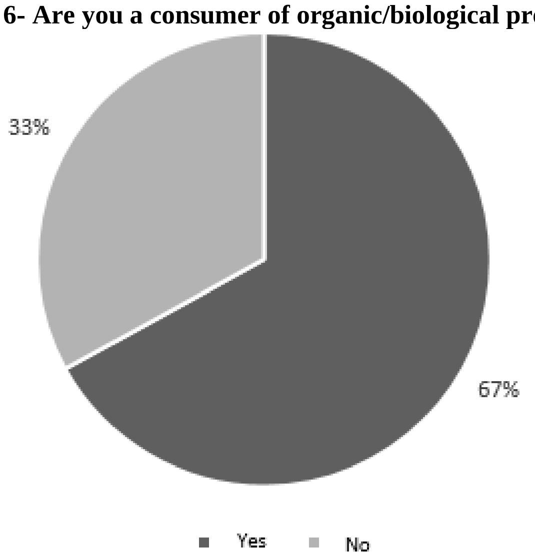
Support for the local economy is mentioned by Fotopoulos and Krystallis (2002), where they specify that some people believe that, by choosing to consume organic food, they are promoting the local economy and contributing to the development of the food sector in their country. These same authors also refer that Greek organic food consumers have ethnocentric attitudes towards food. With these results, and this being one of the factors with the fewest responses, this cannot be said for the Portuguese sample and consumers.

Animal welfare is one of the factors for the purchase and consumption of organic food, but that is not as important compared to health and environmental concerns (Hill & Lynchehaun, 2002; Aarset *et al*., 2004).

Finally, the fashion factor is the one with the lowest level of significance in the sample results. Although authors such as Hill and Lynchehaun (2002) state that this is one of the factors that lead to consumption due to advertising campaigns, this does not apply here. Possibly the fashion factor is not explored accurately, which leads to a very small impact on the results of this sample.

Remembering the first question, respondents who had answered affirmatively to the consumption of organic food were selected. So, Graph 6 shows that there are more consumers of organic food (67%) than does who do not (33%).

Graph 6- Are you a consumer of organic/biological products?



Source: Elaborated by the authors

4.3 Main factors for non-consumption of organic food

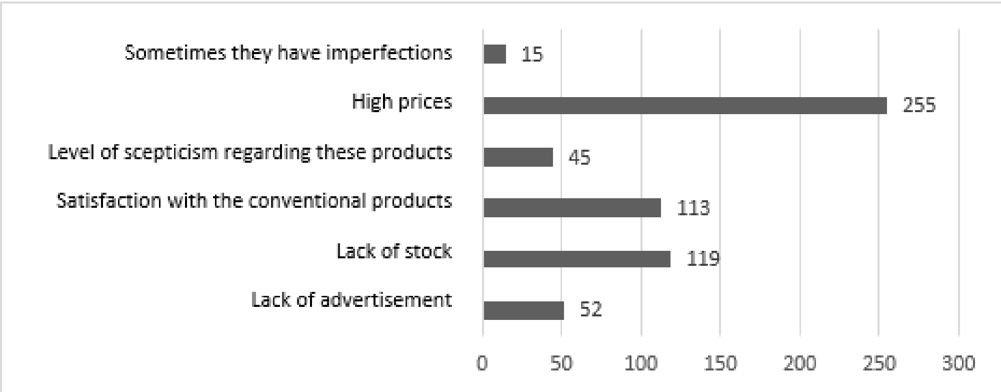
Factors that lead consumers to choose organic foods are as important as the factors that prevent consumers from not choosing organic. This information will also be useful for managers in the food sector as this is a growing market and it is necessary to be aware of its evolution by identifying factors and barriers to the consumption and purchase of this type of food (IFOAM, 2017).

The main factor that discourages the purchase and consumption of organic food, among respondents, is the high prices, which is a barrier mentioned by the entire sample of respondents. There are even those who say that organic foods “are always much more expensive than conventional foods”.

Then, being mentioned by 5 of the interviewees, there is a lack of stock that sometimes exists in relation to this type of food. Flavor, which had already been considered one of the main purchase and consumption factors in the previous question, is also considered here as a barrier for some consumers, who claim to be “a little strange” and “similar to conventional foods”. Other barriers, such as foods that come from abroad and end up not promoting the local economy, the uncertainty as to whether they are really 100% organic foods, the little variety of this type of products, their presentation and even satisfaction with conventional foods, they are also mentioned, in smaller numbers, by some of the interviewees. Horgan et al. (2019) and Alae-Carew et al. (2022) also points social facilitation, pleasure, and beliefs about the importance of meat in the diet as barriers in the adoption of healthy food.

Regarding the questionnaire, similarly to the last question, it was also placed with 6 answer alternatives so that it was possible to make a comparison with studies previously carried out by other authors and presented in theory (see table 2) and were only considered the results regarding the question mentioned in the previous question (Are you a consumer of organic/organic products? If so, how often?) – figure 7.

Figure 7- What are the main factors that lead you not to consume this type of product?



Source: Elaborated by the authors

Analyzing figure 6, it can be seen that the main barrier between the respondents, in the purchase and consumption of organic food, is undoubtedly the high prices with a count of 255. Next, there is a lack of stock and satisfaction with the conventional foods, with a count of 119 and 113, respectively. The lack of advertising and the level of skepticism regarding these products are also identified as barriers for consumers, with a score of 52 and 45, respectively. Finally, and with less evidence, there is the factor of imperfections of these types of foods with a count of only 15.

These results, in comparison with those of the interviewees, show that there is some congruence between them. High prices together with lack of stock were identified as the main barriers in both the sample of respondents and the sample of respondents by questionnaire. Then, the satisfaction with conventional foods by the sample of the questionnaires is also in line with what was mentioned by the interviewees when they assumed that the taste of organic foods is "similar to conventional foods" and perhaps it does not compensate for the price, which is much higher. The next barrier analyzed, the lack of advertising, was not mentioned by any of the interviewees. The level of skepticism in relation to this type of food and the imperfections that make these products less presentable were mentioned in fewer numbers, similarly to what happened in the sample of respondents.

Regarding the theory, several barriers were identified in the purchase and consumption of organic foods by consumers. High prices, as mentioned above, were considered the main barrier both in respondents and respondents by questionnaire, but also in different studies where the extent to which consumers are willing to pay for these products has been investigated (Byrne *et al*., 1992; Tregear *et al*., 1994; Roddy *et al*., 1996; Magnusson *et al*., 2001; Zanoli & Naspetti, 2002). According to Millock (2003), consumers are not willing to pay as much as the current market prices, which goes against the results of the sample.

Lack of stock is another barrier that meets the results of the sample, presented by a study on the purchase of organic food (Zanoli & Naspetti, 2002). In this same study, it is also mentioned that this is due to the lack of supply and of organic agriculture focused on producing food of this type.

Satisfaction with conventional foods is also identified as one of the barriers according to Roddy *et al*. (1996). Magnusson *et al.* (2001) also states that the most important purchase criterion for Swedish consumers was taste, regardless of whether they were organic food or not.

Another of the barriers mentioned by several authors is the lack of publicity. There are several studies that indicate that these types of foods are not being sufficiently advertised and marketed. Roddy *et al* (1996) and Chryssochoidis (2000) even say that the lack of knowledge, the scarcity in the dissemination of these foods and the ineffective retail strategies have not contributed positively to consumers, which is a possible warning for sector managers food from our country.

The level of skepticism on the part of consumers in relation to this type of food is also a barrier identified by some authors in line with our sample. Some studies report that consumers tend to distrust the bodies responsible for certifying these foods, leading them to question the authenticity of organic products (Ott, 1990; Canavari *et al.*, 2002; Aarset *et al.*, 2004). Finally, food imperfections related to their presentation are mentioned by the research of Ott (1990) that say that these same imperfections lead to deter consumers from purchasing organic products.

4.4 Considerations for the possible creation of another type of organic food

Finally, and after knowing the opinion of the sample in relation to organic foods as well as the main factors and barriers inherent to their consumption, it was important to understand if for consumers the level of offer of this type of products corresponds to their expectations or if they would like to see new types of food on the organic market.

Analyzing the content of the interviews, several types of foods were identified that those who manage the organic market, according to the sample, should be more attentive and make available a greater offer of these same products - table 7.

Table 7- Types of organic food respondents would like to see on the market

Types of organic food	Nr. of answers
*low cost p*rodutos	1
Protein sources	5
Vegan products	1
Fruits and vegetables	4
Cereals	3
All (alternative to conventional)	2
Supplements	1
Predominance	Protein sources

Source: Elaborated by the authors

According to the interviewees, these are the protein sources that they would most like to see with greater availability in the organic market. Next, there are 4 respondents who suggest more fruits and vegetables. The different types of cereals such as rice, pasta and oats are other types of food that the interviewees mentioned. 2 of the interviewees say that it would be useful to have an alternative to all conventional foods offering for each conventional type of food an organic type. Finally, although in smaller numbers, supplements as well as vegan foods and low-cost products are also mentioned by the interviewees.

Regarding the questionnaires, some suggestions were also given regarding the encouragement of greater availability on the part of the organic market in relation to certain types of food. It should be noted that this was an open answer question, in which the sample subjects had the possibility to answer openly - table 8.

Table 8- Types of organic food respondents would like to see on the market

Types of organic food	Nr. of answers
Dairy products	2
Fruits and vegetables	9
Cereals	5
Protein sources	7
All (alternative to conventional)	1
Predominance	Fruits and vegetables

Source: Elaborated by the authors

For the sample of respondents, the priority should be fruits and vegetables with 9 of the respondents giving this suggestion. Then protein sources such as meat, fish, and eggs with 7 subjects in the sample giving these suggestions. With 5 answers, the cereals are followed, without specifying their type, unlike the interviewees. Finally, dairy products with 2 responses and all as an alternative to conventional foods, once again with 1 response. There are also those who mention, despite not considering it a type of food, that more stock of this type of product should be made available.

If we compare the results of the sample of respondents with the sample of respondents, it is possible to see that there are some similarities. Fruits and vegetables are mentioned in both samples (4 respondents and 9 respondents) with a total of 13 responses. Protein sources are also suggested by 5 respondents and 7 respondents for a total of 12 responses. Cereals followed with the support of 3 respondents and 5 respondents, totaling 8 responses. 2 respondents and 1 respondent also mention that it would be useful to have an alternative to all conventional foods and, finally, there are low-cost products, vegan products and supplements among respondents and dairy products among respondents.

The results of this question were intended to provide managers and those responsible for the food sector with a better understanding of the gaps that this market may have according to consumers, given that, as mentioned, this is a growing market (IFOAM, 2017), with an annual average of 12% per year (McDonald, 2000) and which is in fashion (Hill & Lynchehaun, 2002) and, therefore, it is necessary to be aware and understand the needs of Portuguese consumers in relation to the market of organic food.

5 – FINAL CONSIDERATIONS

The research made in the literature review which allowed the creation of a fundamental theoretical framework for the definition of the research questions in this article, that were evaluated using descriptive and content analysis applied to data gathered thorough questionnaires and interviews. This made possible to reach conclusions that are relevant to this market, so that the managers of the food sector can define new strategies for their businesses.

The opinion of consumers in the sample in relation to organic food was evaluated in 6 aspects, both for the interviewees and for the respondents: quality, taste, chemicals, price, presentation, distinction. Of all these factors, the level of agreement was very similar, except for the presentation factor where respondents, on average, stated that organic foods have a good presentation, while in the sample of respondents by questionnaire, on average, the results were exactly on the contrary - table 6.

The main factor identified in the sample as the one that most leads consumers to choose to buy and consume this type of food was the concern with health, which agrees with several authors who report that this is the main factor among consumers (Tregear *et al*., 1994; Hutchins & Greenhalgh, 1995; Huang, 1996; Schifferstein & Ophuis, 1998; Chinnici *et al.*, 2002; Zanoli & Naspetti, 2002).

According to the sample, both respondents and respondents considered high prices as the main barrier for not consuming food from organic farming, in line with different studies where it was investigated to what extent consumers were willing to pay for this type of food (Byrne *et al.*, 1992; Tregear *et al.*, 1994; Roddy *et al.*, 1996; Magnusson *et al*., 2001; Zanoli & Naspetti, 2002).

Finally, it was proposed to the sample subjects to indicate what type of food, non-existent or with limited availability, of the organic type they would like to see on the market and thus identify some gaps that may exist in the organic market in Portugal. The types of food most frequently reported were fruits and vegetables, protein-rich foods, and cereals such as oats, pasta, or rice. An alternative to all conventional foods, low-cost organic products, vegan products, and supplements were also, albeit to a lesser degree, mentioned by the sample as possible gaps in this market sector.

This research aimed to understand the dynamics of organic food consumption and the consumer's levels of receptiveness to change their eating habits, verify the opinion about organic food by consumers and understand which factors influence their consumption and, finally, to understand that alternatives to conventional foods should be explored in the organic food market. With these objectives outlined and with the questions explored in this investigation, observing its results, it will be possible for managers of the healthy food market sector to understand the current needs of consumers in Portugal and thus define new business ideas, new strategies and prevent any risks that may exist in this market.

With the verification of the opinion that these consumers have about this type of food, the main factors for consumption and non-consumption and the gaps that, according to consumers may exist in the organic sector, will allow managers of this same sector to have a greater awareness of the entire environment that is inherent to this healthy food market and, with this, allow companies in this sector to more easily achieve a sustainable competitive advantage in their businesses.

Since 2012, Portugal is implementing national food and nutrition policies with the main goal of improving the nutritional status of the population, stimulating the physical and economic availability of healthy food, creating conditions so it could be integrated in the daily routines of the population (Graça et al., 2018). This showed an interest from the state, but it was also a response to an increasing concern of the Society regarding eating habits. New generations are more concerned with their health habits and the impact of corporate decision in their life's and in the World. They believe that companies should think about their impact in society, and when looking at food companies, these new consumers are influenced by sustainable production methods and by more healthy food (Baptista, 2017). Predicting the growth of these movements, the food industry recognizes the need for a better understanding of the consumer trends and the need for making more investments in more healthy and organic food.

Given the little research on the subject in Portugal, it was important to understand the levels of consumption of this type of food at national level and to identify the main factors that caused these levels to fluctuate and change. It was important to reinforce and deepen research within the scope of it and allow, as is already the case in other countries, a better understanding of this market.

With this investigation, it was also possible to add greater knowledge on the topic of healthy eating and organic foods in Portugal, covering a gap that existed when comparing to the research made in countries like Italy, United Kingdom, Ireland, Netherlands, Spain, Greece, New Zealand, Denmark, Sweden, Norway, and the United States.

In future investigations, it would be interesting, through a larger sample, to identify whether the offer corresponds to the demand for this type of food and, with the managers of this sector, to identify whether the sales of organic products justify the increase in variety and diversification of this type of products.

In short, and with the constant growth of information systems, it must be borne in mind that this research should not be considered as the end of a study, but rather as a path that allows us to deepen the theme of organic food to be applied in future investigations.

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