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# DETERRENTS AFFECTING CONSUMERS' ORGANIC PRODUCT PURCHASE

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# Abstract

Organic agriculture is becoming an important factor of the economy as years go by and as the awareness on the subject increases among consumers. Although the sector is very promising, the demand is still very low. The value added to be obtained by organic agriculture can be a strong factor of the economy, especially on local basis. Therefore consumers' purchase behaviors must be examined thoroughly to figure out how the demand can be increased. This study is, hence, focused on the deterrents that prevent consumers to purchase organic foods. An online survey is employed to a sample size of 556 respondents out of 543 were selected based on answering all questionnaire. Two different question set is employed to buyers and nonbuyers to depict the reasons of buying and not buying organic food. This study demonstrates the deterrents for non buyers. The replies given to the hypothesis specific questions are tested by chi-square test. Regarding the outputs, the main deterrents for buying organic food is the lack of packaging and trust in the authenticity of the seller. However, cosmetic concerns are not examined as one of the deterrent for a buy decision. For elimination of these deterrents can convince the consumers to purchase organic foods, which in consequence increase the demand and cause value added for local economy.

Keywords: Organic food, organic agriculture, consumer behavior, deterrents, purchase intention



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#### INTRODUCTION

Interest on organically produced foods (OPFs) which is increasing since mid 80s, is proved to be the result of consumers' developed consciousness and awareness on health and environment issues as well as the welfare of animals and the sustainability of the world they are going to legate to their children and grandchildren (Mintu-Wimsatt et al., 1995). Based on the studies and researches that are conducted, since more than three decades now, consumers' OPF buying reasons can be classified in two sections; sensory reasons and non-sensory reasons. Sensory reasons are the most significant and important reasons for consumers to prefer purchasing OPF. The taste, the smell and the aroma of the food satisfying and pleasing the consumers are all considered among sensory reasons. Finding their childhood tastes which they were yearning for is another sensory reason (Hill and Lynchehaun, 2002; Magnusson et al., 2001; Ophuis, 1998; Roddy et al., 1996; Schifferstein and Torjusen et al., 2001;). Nonsensory reasons can be classified as consuming healthy food by avoiding chemicals and additives contained in conventionally produced food (CPF), supporting local economy, concerns about animal welfare and preserving environment, wanting to be sure of the food's nutritional value and of the production methods (Chinnici et al., 2002; Hill and Lynchehaun, 2002; Hughner et al., 2007; Hutchins and Greenhalgh, 1997; Jolly, 1991; Misra et al., 1990; Zanoli and Naspetti, 2002).

Compared to numerous researches conducted to determine why consumers prefer OPF, there are remarkably less researches and studies conducted on the deterrents which are preventing consumers to purchase OPF. The studies on "why not purchasing" have pointed out high price of OPFs in the market as the primary deterrent of not buying. Considerably high prices of OPFs which are 25-60% higher compared to the ones produced by conventional methods, prevent consumers to prefer buying OPFs and oblige them to go for CPFs (Aertsens et al., 2011; Buder et al., 2014; Magnusson et al., 2001; Millock and Hansen, 2002; Tregear et al., 1994). Lack of availability is indicated by some researchers as another important deterrent preventing consumer to buy OPFs regularly. Not being able to find OPFs easily, in the reach of their hands, pushes the consumer to buy CPFs (Zanoli and Naspetti, 2002). Several studies pointed out that lack of trust in organic origin of the foods is another significant deterrent (Aertsens et al., 2011; Canavari et al., 2002; Ott, 1990). Consumers do not trust in the control and certification systems and believing that they can be fooled very easily, they are reluctant in buying OPFs. Insufficient presentation, in other words lack of knowledge, is another deterrent for consumers when it comes to buy OPFs as pointed out by other studies (Roddy et al., 1996; Padel and Foster, 2005; Chryssochoidis et al., 2012). Another weak but efficient deterrent refraining consumers from purchasing OPFs is "cosmetic concerns" (Ott, 1990; Thompson and



Kindwell, 1998). Cosmetic concerns can be described as the concern occurring in consumers due to the appearance of OPFs which have blemishes, the existence of worms inside fruits, the imperfection in their shapes. Taking into consideration the minority of the researches conducted on the deterrents and the importance of OPF industry as a new resource for the economy which intends to grow by folds each year, this study will be focusing on the deterrents that prevent consumers to buy OPFs. Determining these deterrents which are preventing consumers to purchase OPFs can help to figure out how to eliminate them, can help in changing consumers' attitudes and behaviors positively on OPF purchase and consumers can to start to purchase/or purchase more often OPFs as a consequence. On the other hand, these results can put light onto OPFs agriculturists on modifying, amending or restructuring their marketing behaviors as well and help the industry thereby to grow further. The survey which is conducted for this research aimed to determine why consumers are not purchasing OPFs, what are their deterrents, their perception and behaviors on the subject and to figure out what can make them start to purchase OPFs or increase their actually existing but quite limited purchase rates.

#### LITERATURE REVIEW

Deterrents are the factors that discourage people from doing something. Deterrents are important as they are preventing positive attitude of consumers towards OPFs to be transformed into purchasing behavior. Researchers have conducted several studies on determining the deterrents preventing consumers to purchase OPFs or to purchase OPFs more often, in other words, regularly. Jolly (1991) determined two different groups of deterrents for consumers. The first group of deterrents is for the consumers who have stopped purchasing organic foods. Jolly determined high prices by 56,9% based on the data obtained from respondents as the most important deterrent to stop purchasing. Shops' location which cause difficulty in accessing is the second deterrent by 53,5%. The time spent in searching the product is the third deterrent by 47,1%. Then, comes respondents who do not know the reason, followed by the ones who have cosmetic concerns, by 8.9% and 6.8% respectively. The flavor and the color of the OPFs have the same percentage by 5.8% as a deterrent. Finally the quality of the OPFs is deterring the consumers in stopping to purchase them by 5.3%. The second group of deterrents classifies the consumers who never purchased OPFs. The first deterrent of this group is the availability of the OPFs by 43.4%. High prices here occupy the second row by 41.3%. The time spent in searching the product is the third deterrent by 34.8%. The percentage of the respondents who do not think that OPFs are better than CPFs is 27.3%. Shops' location causing difficulty in accessing the OPFs has a percentage of 16.1% as same as the respondents who do not know the reason. For this group cosmetic concern which is the



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appearance of the OPFs is a deterrent by 13.3%, while shelf life which means that OPFs spoil quickly is a deterrent by 10.5%. Quality standards and flavor of the OPFs had both a share of 4.2% as a deterrent. Other reasons indicated by respondents had a percentage of 9.2%. Furthermore the literature review reveals below reasons as the deterrents for consumers in purchasing OPFs which are similar to the study of Jolly (1991).

#### **Excessive Price**

High prices of OPFs are highlighted as one of the most important deterrents for consumers in not purchasing OPFs (Fricke and von Alvensleben, 1997; Geen et al., 2006; Hack, 1995; Jolly,1991; Padel and Foster,2005;). Michelsen et al. (1999) stated in their study that high prices are reduced when the volumes are increased and the sales are provided through more accessible locations such as supermarkets. Aertsens et al. (2011) determined excessive prices of OPFs as deterrent factor number one for not buying OPFs.

## Not Being Available Everywhere

Studies conducted to determine the deterrents for not-buying OPF have revealed lack of availability / not being available everywhere as an important factor. Zanoli and Naspetti (2002) conducted a research in Italy and indicated "not being available everywhere" as an obstacle for buying OPFs. Makatouni (2002) pointed out not being available everywhere as a deterrent for not-buying OPFs. 26% of Welsh consumers, according to MINTEL survey which is conducted in 2002, declared that they don't know where to get OPFs. 35% declared that they find OPFs difficultly. Other researches (Boccaletti and Nardella, 2000; Fotopoulos and Krystallis, 2002; Magnusson et al., 2001; Zanoli and Naspetti, 2002) have indicated that not being available is an important factor for not buying OPFs.

# Lack of Trusting In Certification

Lack of trusting in certification/ organic labeling process, or in other words lack of reliability to the authenticity of the OPFs is pointed out as another deterrent by researchers (Aarset et al., 2004; Canavari et al., 2002; Ott, 1990).

# Lack of Knowledge About Its Benefits

Consumers' lack of knowledge about the benefits of OPFs and their being unaware of latest developments in OPFs domain have been determined by several studies as a factor preventing them to purchase or demand for OPFs (Aschemann-Witzel and Aagaard 2014; Demeritt, 2002; Diaz et al., 2012; Hill and Lynchehaun, 2002; Magistris and Garcia, 2008; Pieniak, Aertsens and



Verbeke, 2010; Roitner-Schobesberger et al, 2008). Chryssochoidis (2000) also states late introduction of OPFs as a deterrent, which is reflecting on consumers as a lack of knowledge.

#### **Cosmetic Concerns**

Studies conducted since decades (Ott, 1990; Thompson and Kidwell, 1998) have indicated another deterrent which is named as "cosmetic concern" that deters consumers to purchase OPFs. The appearance of OPFs having blemishes, the existence of worms, the imperfection in their shapes are called as cosmetic defects and the deterrent is called as cosmetic concern. Consumers who are used to have bright, shiny, perfectly shaped fruits and vegetables, containing no worms or other bugs, cleaned from dirt or other substances, think that OPFs with blemishes or insect damages, or not looking perfectly shaped, do not worth to pay a price higher than they pay for conventionally produced ones.

#### METHODOLOGY

This study aimed to determine the deterrents which are refraining the consumers to purchase OPFs and also to figure out whether the modifications/ameliorations to be carried out on the deterrents can convince the consumers to purchase (for non-buyers) and/or purchase more often (for buyers) organic products. As OPFs agriculture can be a powerful element of the economy, the feedbacks of non-organic product buyers were deemed to be a good indicator on the path leading to increased demand / increased production of OPFs.

For the purpose of the study, an online questionnaire, composed of 41 questions was employed to 556 respondents. After eliminating the ones who have not replied all the questions, the survey took into consideration 543 respondents. The survey was divided into three main and one final section. The first section of the questionnaire which contains eleven questions is reserved for demographic questions to determine the gender, age, education, civil status, residential location, number of children at home or number of household and also who is making food shopping, who is cooking meals at home. Last question of this section is "Do you purchase organic products?" The following section is arranged under two different schemes; one for the respondents who replied "no" to the last question of the first section and the other for affirmative respondents. Accordingly the respondents who said "yes" to the question are directed into the second section of the questionnaire which is arranged specifically for OPFs buyers and the ones who said "no" to the very question are directed to another second section which contains questions that are specific for non-buyers. Finally last question of both second sections is directing the respondents to the last section of the questionnaire composed of one question only, leading them to the submit button eventually.



While Likert Scale questions are used to determine the attitudes and behaviors of buyers and non-buyers, questions to determine the demographic characteristics of the respondents and to determine how they do reach organic food, or the frequency of consummation and the kind of products they consume are either multiple-choice or yes/no questions. Likert Scale is ranked as; 5 – Strongly Agree, 4- Agree, 3- Don't know, 2- Disagree, 1- Strongly Disagree.

The replies given to the hypothesis specific questions are tested by chi-square test to provide and the weight of other replies is computed to provide more detailed results on the perception of consumers.

Some data concerning the demographic aspects of the respondents are as follows:

- 52% were females and 48% were males. When studied with regard to "Non-buyers" and "Buyers" the percentage was same for both as 52% females and 48% males.
- 61% of "Non-buyers" are married and 39% are single, while 72% of "Buyers" are married and 28% are single.
- 2% of the respondents are younger than 20 years old. 2% are between 21-30 years old, 15% are between 31-40 years old, 33% are between 41-50 years old, 31% are between 51-60 years old and 17% are older than 60 years old.
- 1% of the respondents have education below high school level, 7% have high school education, 54% have undergraduate education, 25% have graduate education and 13% have PhD degree.
- 38% of Buyers have no children, 28% have one child only while 31% have two children and 3% have 3 three children. On the other hand, 46% of Non-buyers have no children, 26% have one child, 26% have two children, while 1% have 3 children and 1% have four children.
- 56% of the respondents live in Istanbul, 2% abroad and remaining 42% live in 29 different cities of Turkey.
- 9% of the respondents declared that they purchase organic food every day. 32% declared that they buy organic food 2-3 times a week. 33% said they buy organic food once a week. 5% stated that they buy organic food once a month while 15% declared buying organic food 2-3 times a month and 6% stated that they buy even less than that.

The hypotheses that are studied to determine the situation of deterrents are as below:

**H.1**. Cosmetic concerns deter consumers to buy organic food.

**H.2**. Packaging of organically produced food is important for organically produced food buyers.

**H.3**. If consumers can trust the authenticity of the organically produced foods they will purchase/ purchase more.



# **EMPIRICAL RESULTS**

The results that are obtained by Chi-square test are as below.

# H.1. Cosmetic Concerns Deter Consumers to Buy Organic Food

To test this hypothesis, the study proposed the statement "Ensuring a better look for organically produced food as good as non-organic ones, can increase their purchase" to both group of buyers and non-buyers respondents.

Table 1. Statement "Ensuring a better look for organically produced food as good as non-

Likert Scale	Buyer	Non-buyer
	Respondents	Respondent
Strongly Agree	43	8
Agree	116	46
Don't know	97	40
Disagree	113	49
Totally disagree	23	8
Total	392	151

organic ones, can increase their purchase" proposed to both groups

Implementing chi-squared test to the data obtained from OPF buyers and non-buyers, below figures are obtained for observed and expected data:

Table 2. Observed and expected data on the statement "Ensuring a better look for organically produced food as good as non-organic ones, can increase their purchase" proposed to both groups

Likert Scale	Buyer	Non-buyer	Tota
Strongly Agree	43 / 36.8	8/14.2	51
Agree	116/117.0	46 /45.0	162
I don't know	97 / 98.9	40 / 38.1	137
Disagree	113 / 117.0	49 / 45.0	162
Strongly Disagree	23 / 22.4	8 / 8.6	31
Total	392	151	543

# Above data compute $x^{2}h = 4.43$ and $x^{2} = 9.48$

# Therefore x<sup>2</sup>h < x<sup>2</sup>

As  $x^{2}h < x^{2}$  then Hypothesis Ho is rejected, accepting hypothesis H<sub>1</sub>.



As hypothesis H1<sub>1</sub> is "cosmetic concerns deter consumers to purchase organically produced food", null H1<sub>0</sub> is "cosmetic concerns do not deter consumers to purchase organically produced food"; the result of chi-square test implemented on the replies of the survey's respondents is accepting H1<sub>0</sub> which is "cosmetic concerns do not deter consumers to purchase organically produced food" and rejecting H11 which is "cosmetic concerns deter consumers to purchase organically produced food".

This result is contrary to the literature review can be interpreted, taking into consideration that the latest study dates back to 1998; during two decades consumers attitudes and behaviors towards appearance of OPFs have developed positively and they are no longer deeming appearance of OPFs as a deterrent.

# H.2. Packaging of Organically Produced Food Is Important For Organically Produced **Food Buyers**

In the literature there are few studies about the importance of packaging in the purchase/marketing of OPFs. The study of Sarıkaya (2017) conducted among Turkish consumers indicated the weight of the "importance of a well packaging" as 2,78. In another study, it is stated that consumers are purchasing OPFs considering the quality of the packaging as well as its ability to provide well storage, being healthy, facilitating its transportation and due to its safety (Ongun, 2016). According to another study (Birinci and Er, 2006), lack of packaging is an important factor affecting the local market sales for OPFs.

To test the importance of packaging as a factor affecting the purchase preference of consumers when it comes to OPFs, the survey conducted for this study proposed the statement "Organically produced products being delivered till our homes with no packaging is a deterrent for not-buying" to both of the buyer and non-buyer groups. The replies provided by the respondents are as below:

Likert Scale	Buyer Respondents	Non-buyer Respondents
Strongly Agree	13	7
Agree	117	40
Don't know	111	12
Disagree	138	72
Totally disagree	13	20
Total	392	151

Table 3. Replies given to the statement "Organically produced products being delivered till our homes with no packaging is a deterrent for not-buying"



Implementing chi-squared test to the replies obtained from OPF buyers and non-buyers, below data are obtained:

Table 4. Observed / expected data on the statement "Organically produced products being delivered till our homes with no packaging is a deterrent for not-buying"

Likert Scale	Buyer	Non-Buyer	Total
Strongly agree	13/14.44	7/5.56	20
Agree	117/113.34	40/43.66	157
I don't know	111/88.80	12/34.20	123
Disagree	138/151.60	72/58.40	210
Strongly disagree	13/23.82	20/9.18	33
Total	392	151	543

## Above data compute $x^{2}h = 42.97$ and $x^{2} = 9.48$

#### Therefore $x^{2}h > x^{2}$

As  $x^{2}h > x^{2}$  then Hypothesis Ho is rejected, accepting hypothesis H<sub>1</sub>.

As Hypothesis H2<sub>1</sub> "Packaging of the food is important for organically produced food buyers" and null hypothesis H2<sub>0</sub> is "Packaging of the food is not important for organically produced food buyers"; the result of chi-square test implemented on the replies of the survey's respondents is rejecting H2<sub>0</sub> which is "Packaging of the food is not important for organically produced food buyers" and is accepting H2<sub>1</sub> which is "Packaging of the food is important for organically produced food buyers".

# H.3. If Consumers Can Trust the Authenticity of the Organically Produced Foods They Will Purchase / Purchase More.

As one of the aims of this study is to determine whether increase in reliability on OPF's authenticity can increase or not its purchase, the survey conducted for this study proposed a statement to the respondents of both buyer and non-buyer groups. The replies given to the proposed statement both for buyers and for non-buyers "Implementation of a hundred per cent reliable control system for the certification of organic products - such as an application for cell-phones enabling instant check - can increase their consumption" are as below:



Table 5. Statement "Implementation of a hundred per cent reliable control system for the certification of organic products - such as an application for cell-phones enabling instant check - can increase their consumption"

Likert Scale	Buyer	Non-buyer
	Respondents	Respondent
Strongly Agree	195	7
Agree	153	40
Don't know	34	12
Disagree	9	72
Totally disagree	1	20
Total	392	151

Observed and expected data are:

Table-6. Observed / expected data for the statement "Implementation of a hundred per cent reliable control system for the certification of organic products - such as an application

Likert Scale	Buyer	Non-Buyer	Total
Strongly agree	195/171.41	42/65.59	237
Agree	153/164.18	74/164.18	227
l don't know	34/42.67	25/16.33	59
Disagree	9/10.13	5/3.87	14
Strongly disagree	1/3.62	4/1.38	5
Total	392	150	542

for cell-phones enabling instant check - can increase their consumption"

#### Above data compute $x^{2}h = 23.13$ and $x^{2} = 9.48$

#### Therefore $x^{2}h > x^{2}$

As  $x^{2}h > x^{2}$  then Hypothesis Ho is rejected, accepting hypothesis H<sub>1</sub>.

As Hypothesis H3<sub>1</sub> is "if consumers can trust the authenticity of the organically produced foods they will purchase / purchase more" and null hypothesis H3<sub>0</sub> is "even if consumers can trust the authenticity of the organically produced foods they will not purchase / purchase more"; the result of chi-square test implemented on the replies of the survey's respondents is rejecting H3<sub>0</sub> which is "even if consumers can trust the authenticity of the organically produced foods they will not purchase / purchase more" and is accepting H31 which is "if consumers can trust the authenticity of the organically produced foods they will purchase / purchase more". Hence, it is



observed that once consumers shall be hundred per cent sure of the authenticity of the OPFs, they shall purchase or purchase more often.

#### CONCLUSION

Consumers' increasing interest towards OPFs since mid 80s is a hope promising attitude for human and animal health as well as the sustainability of our planet, when positive effects of OA are taken into consideration. Apart environmental and social consequences, economic consequences of OA must not be neglected neither by producers nor by local and national authorities. Local consumers, who are already purchasing OPFs, can be convinced to purchase regularly and more OPFs. When it comes to consumers who are not purchasing OPFs at all, careful study of the deterrents that are preventing them to purchase OPFs can provide considerable positive changes in their attitudes towards OPFs and in their purchasing behaviors. One of the most important outcomes obtained by the survey with regard to raised awareness and conscious of consumers on OPFs is that they do not see imperfect shapes, blemishes and bugs that exist on OPFs as a deterrent for not purchasing them. They do consider them as a natural consequence of OA. However they think that OPFs must be better presented to consumers with regard to their benefits for humans, animals and environment. They think that a better presentation and explanation of the developments in OA domain shall cause an increase in the demand. As the survey indicated, packaging of OPFs is important for consumers. They are paying attention to how the OPF is packaged. Therefore proper packaging must be studied regarding OPFs together with consumers' raised concern on environmental issues in regulating marketing activities of OPFs to increase the demand. Although considerably high price premium of OPFs is observed to be the most important deterrent in purchasing OPFs, lack of trust is a big question mark which has to be replaced by increased trust on the reliability of OPFs certification. The study demonstrated that consumers, both buyers and non-buyers don't trust the certification process and believe that even organic food labels are not enough to ensure them on the authenticity of OPFs. Paying a considerably high price for OPFs they want to be sure of the authenticity of the food. They are willing to pay a higher price and to purchase from local producers to support them economically, but they think that they can be cheated easily and are understandably reluctant in purchasing OPFs. They state that if a hundred per cent reliable control system is implemented, they will feel safe and secured. Even this factor is a guide for how to modify OA procedures from soil to shelf. Modification and regulation to be performed on the reliability of OPFs, taking into consideration the outcomes of the survey conducted for this study, can increase the demand from local consumers. Increased demand can increase the production and decrease the prices. Decreased prices can increase purchase.



Increased purchases can increase the number of agriculturists who work on OA field. Increased work on OA field can increase the surfaces on which OA is carried out. Increased plantation surfaces can increase the employment and decrease unemployment. Decreased unemployment can increase personal income of individuals and their purchasing power. Increased income and purchasing power can lead eventually to economic growth.

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