



## Factors Affecting the Attitude to Consumption of Organic Products in Fruit and Vegetables Markets in Tehran Municipality

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### ABSTRACT

The title of this article is Factors affecting consumer attitudes of Organic Products in fruit and vegetables Tehran Municipality. The main purpose of this research was "Factors affecting consumer attitudes of Organic Products in fruit and vegetables Tehran Municipality". Statistical population of this study consisted of Staff of squares and fruit and vegetable markets of Tehran Municipality (N= 316). Number of samples for this target population was 125 which was selected through Simple random sampling. for quantitative stage, have been referred to field method through a questionnaire. In order to determine the content and face validity of the questionnaire, have been done with committee advisors consultant and other specialist in this field. Reliability of the questionnaire is calculated by the cronbach Alpha test and it became 73% - 86% which is indicate a good value. The results of regression show that Economic factors, education factors and socio-cultural factors will have a positive impact on the Dependent variable.

**Keywords:** Organic Products, consumer attitudes, Factors, fruit and vegetables Tehran Municipality.

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### INTRODUCTION

Along with the increasing world population, after supplying the food needed for human society, food safety is one of the most important and applied terms studied today in developmental documents. Food safety means being ensured that the food that people use is completely healthy and free of any contamination. This contamination could be microbial, parasitic or chemical. Scientific studies indicate that in recent decades, with the development of technology and increasing the use of additives, pesticides, antibiotics and hormones in food production in developing countries, they have created adverse effects on human health (Ranjbar Shams and Omid, 2014). This problem is global that it has involved developing countries by 13 percent more than other countries, so that in developing countries, 1.5 million children under five years of age suffer from side effects of diseases resulting from toxic compounds and chemical residue in food and more than 3 million people die annually. They also impose much economic costs to countries. In this regard, Iran has also suffered from industrial agricultural adverse effects, so that World Health Organization in 2010 announced that Iran ranked 93 among all countries in world in terms of health. The main cause included malnutrition and lack of the appropriate use of fertilizers, pesticides and hormones on farms and remaining effects of compounds of them in agricultural products (Moradi and

Omid Najaf Abadi, 2011). Facing with the environmental, social, and economic effects of industrial agriculture, organic food production seems to be more vital than ever. In developed countries, special organizations and policies have been formed for food production. These organizations have adopted organic agriculture as a solution to the problems of industrial agriculture. Based on definition of International Federation of Organic Agriculture Movement, organic agriculture is an agricultural system in which biological, social, economic, sustainable production of food, clothing, wood products and so on are improved. In this system, soil fertility is considered as a successful production. In organic agriculture, using the natural features of plants, animals and the environment, agriculture and environmental system quality is maintained and improved (IFOAM, 2008). Organic agriculture could be effective in terms of environmental protection, preservation of non-renewable resources, improved food quality, reduced production of excess and unnecessary products, and reorientation of agriculture sector to market needs. In fact, the objective of this production system is to protect and maintain the resources and sustainability of production factors on the one hand and supplying health and food safety for consumers on the other hand. In this method, the use of chemicals is minimized, while producing the product depends more on maintenance and use of resources on farm such as animal, human and plant waste (Kucheki, 2013). In organic agriculture, the degree of reliability to renewable resources used by agriculture sector is so that the possibility of production of significant amounts of agricultural

and livestock products needed by human and conditions such immunity against diseases and pests for plants are provided. Therefore, the objective of sustainability is hidden within the concept of organic agriculture. The main factor that differentiates organic agriculture from conventional agricultural methods is the existence of developed standards used for determining the precise standards of difference between organic agricultural system and other agricultural systems, especially in relation to marketing goals. The major benefits of organic agriculture include food safety and public health, sustainability of production resources, diversity and reducing the production risk, environmental effects, and social and economic effects. However, this method has some problems and shortcomings such as reduced production yields due to the reduction of the use of chemical fertilizers and pesticides (ibid). The first step in addressing and moving towards the development of healthy products is identification of objectives that are consumers, because the main factor of growth in any economic system depends on having knowledge of management by recognizing consumer behavior, factors influencing it, and strength of prediction of his behavior. Therefore, it seems to be necessary to examine the target population that is behavior of consumers who are the first and the important loop of one economic system. Understanding consumer behavior is important since it could be helpful in developing the marketing program and increasing the efficiency of production to conception process (Aertsens, 2011). Given that one of the most important factors affecting agricultural production is consumers' demand, developed countries have provided the conditions to increase demands of consumers by creating awareness and knowledge of health and environmental issues (Mohamadian, 2011). However, lack of attention of Iranian consumers to importance of consumption of organic products for human health has causes that organic products not to have place in food basket of the society, while in many cases, we observe cheap purchase of organic products in Iran by the developed countries and selling them at high price at global markets. Some experts believe that lack of people awareness of organic products and high price of these products compared to non-organic products as factors affecting the attitude and demand are the main reasons for lack of interest in organic products in agriculture and animal products (Ajoodani, 2010). Considering the high size and population of Tehran and various issues and problems that this growing population can face with them in terms of personal, social, and environmental health and increasing capabilities of organic products and positive effect of attitude and demand of consumers in growth of organic agriculture, conducting this study seems to be necessary. The results of study conducted by Ranjbar Shams and Najafabadi (2014) entitled "Factors affecting the attitude to consumption of organic agricultural products in Tehran" showed that the variables of health knowledge, knowledge of organic products, motivation, and age of consumers explained 32% of changes in attitude to organic products. MalekSaedi et al. (2010) in a study entitled "Factors Affecting Knowledge of Agricultural Experts of Agriculture Organization of Khuzestan to organic agriculture", results showed that the variables of access to agriculture-environmental information (meaning one's access and awareness on new information and findings of agriculture and environment through media such as television, newspapers, the internet and journals) and individual-professional factors (work experience) had significant positive effect on knowledge of experts toward organic agriculture. Based on the results, the variables of attitude to health (the importance of health in development and progress of society, the relationship between health and nutrition) and attitudes toward nutrition through an impact on general environmental attitude of people

(destruction of wildlife, water pollution, natural disasters because of greenhouse gases) have increased knowledge on organic agriculture. Babaakbry et al (1387) in a study entitled "Attitudes of consumers and factors affecting adoption of organic agricultural products," founds that from the viewpoint of consumers, the most important channel of communication to inform the public was radio, television and the most important method was the supply of organic products through special labels of organic products. The most important factors affecting the adoption of organic products were divided into four educations and informing, service-supporting, monitoring and economic factors. Chaharsooghi Amin et al (2007) in a study entitled "investigating the factors affecting the adopting sustainable agriculture methods in irrigated cultivation by wheat farmers of Sistan and Baluchestan Province" concluded that among variables related to economic factors, increased production yield variable had the most impact on adopting of sustainable agriculture techniques, and in this regard, educational-promotional factors, relation with agricultural extension workers had the highest impact on adopting sustainable agriculture methods. In addition, the variable of participating in educational classes from the perspective of studied people had the highest impact in adoption of sustainable agriculture methods. Stonehouse et al., (2013) referred to the role of sustainable agriculture in providing healthy food for humans and believe that solutions in the form of sustainable agriculture should be found to encourage farmers to avoid using chemicals and direct them to natural and healthy inputs, selection of optimal methods and resistant cultivars, and good management. Asadi et al (2010) in a study entitled "examination of evaluation of factors effective in distribution of organic agriculture products among consumers" showed that TV and radio played the most contribution in informing about the organic products. In addition, factors, cultural, economic, and production factors and distribution of organic products had an impact. Wheeler (2008) in his study entitled "What factors affect the agricultural professional approach towards organic agriculture" concluded that economic and social changes such as age, and income and education had positive impact on consumer attitudes towards organic agriculture. In addition, this researcher concluded that gender has impact in adoption organic agriculture. It means that women are more willing to pay money for organic products. He also concluded that the age is associated with organic agriculture negatively, and income and education have positive impact on consumption of agriculture products. In addition, people who are more familiar with organic agriculture have positive attitude towards organic agriculture. Alung and Martin (1995) in their study examined the relationship between the adoption of sustainable agricultural practices by farmers in Iowa state using the variables of age, education, agriculture experience, farm size, access to sources of information, and understanding of innovation adaptation. They concluded that the adoption of sustainable agricultural practices has significant positive relationship with farmers' access to sources of information and understanding of innovation adaptation.

#### Research objectives

According to what was stated, the general objective of this study was to investigate factors affecting the consumption of organic products in the fruit and vegetable markets in Tehran Municipality that to achieve this goal, these objectives were considered:

- Investigating the economic factors influencing consumer attitudes to consumption of organic products in fruit and vegetables markets of Tehran Municipality

-Investigating the educational factors influencing consumer attitudes to consumption of organic products in fruit and vegetables markets of Tehran Municipality  
 - Investigating the policy-making factors influencing consumer attitudes to consumption of organic products in fruit and vegetables markets of Tehran Municipality  
 - Investigating the social and cultural factors influencing consumer attitudes to consumption of organic products in fruit and vegetables markets of Tehran Municipality

**RESEARCH METHODOLOGY**

The current study is applied in terms of objective and in terms of method it is survey and descriptive-correlational study. Data were collected through questionnaire. To develop the questionnaire, theoretical principles regarding the references were examined. Then, considering the results of studies, primary questionnaire was prepared and after ensuring the validity and reliability of it, the final questionnaire was developed. To evaluate the validity of the research tool, it was provided for experts. After applying necessary reforms and changes in some of the questions, the validity of the questionnaire was confirmed. To test the reliability of tool, 30 questionnaires were completed by subjects and its Cronbach's alpha was calculated ( $\alpha=86\%$  -73%) that is acceptable reliability coefficient for this study. The population of the study included 316 people that 125 of them were selected as sample of study based on Cochran formula and using simple random sampling. In order to analyze data collected, SPSS16 software was used. In the descriptive statistics, the statistics of coefficient of changes, median, mode, and mean and in the inferential statistics, correlation and regression analysis methods were used.

**RESULTS**

The results of descriptive statistics: According to the study, the mean age of employees working in fruit and vegetable markets of Tehran Municipality was 44 years that the youngest of them was 33 years old and the oldest of them was 58 years old. In addition, 73.2% of them were male, and 26.8% of them were female. In terms of education level, 21.3% of them had associate degree, 54.1% of them had bachelor degree, and 26.4% of them had master degree. The mean work experience of employees working in fruit and vegetable markets of Tehran Municipality was 7 years. The majority of respondents are familiar largely with organic products, but they use organic products lowly. In order to understand the views of these employees on attitude to consumption of organic products, 8 items in a Likert scale were used. Accordingly, the maximum score of 5 is given to option strongly agree and the lowest score of 1 is given to option strongly disagree. The lowest and highest score for each respondent is respectively 8 and 40, respectively. Therefore, all the items are computed and re-coded so that scores of 13-8 (strongly disagree), 19-14 (disagree), 26-20 (no idea), 33-27 (agree) and 40-34 (strongly agree) were classified. The results showed that the majority of subjects (50%) agree with cases mentioned with regard to attitude toward consumption of organic products.

**Table 1:** view of employees working in fruit and vegetable markets of Tehran Municipality on the attitude to consumption of organic products

Evaluation spectrum	f	percentage	Valid percentage	Accumulative percentage
Strongly disagree(8.13)	0	0	0	0
(14-19)	0	0	0	0

disagree				
no idea (20-26)	38	30.4	34.5	34.5
(27-33) agree	55	44	50	84.5
(34-40)Strongly agree	17	13.6	15.5	100
No answer	15	12	-	-
Total	125	100	100	-

Median: agreemode: agree

The results of e correlation test among research variables: Research findings suggest that there is a significant positive relationship between economic factors and educational factors and attitude to consumption of organic products from the viewpoint of employees of fruit and vegetable markets organization at the level of 0.99%. Research findings suggest that there is a significant positive relationship between policy-making factors, socio-cultural factors, and level of familiarity with organic products with the attitude to consumption of organic products from the viewpoint of employees of fruit and vegetable markets organization at the level of 0.95% (table 2).

**Table 2-** correlation among research variables and attitude to consumption of organic products

Row	Independent variable	Dependent variable	r	P
1	Economic factors		**0.620	0.000
2	Educational factors		**0.532	0.000
3	Policy-making factors		*0.205	0.022
4	Social and cultural factors	attitude to consumption of organic products	*0.220	0.013
5	Age		0.099	0.303
6	Work experience		0.012	0.904
7	Education level		0.0503	0.581
8	Familiarity with organic products		*0.182	0.046

\*= significance at the level of 0.95 \*\*= significance at the level of 0.99

Factors affecting the attitude to consumption of organic products:

To predict consumers' attitudes to organic products, multiple-regression method was used. It should be noted stepwise regression analysis was used to obtain equation. After entering all variables with significant correlation, only economic, educational, and socio-cultural factors were entered to equation. These variables could explain 55.5% of the changes in the dependent variable. On the other hand, investigating standardized regression coefficients showed that the variable of economic factors (B=796) had greater role in attitude of consumers to organic products.

**Table 3- various stages of entering independent variables to regression analysis**

Stages	Variable	R	R2	Adj R2	Std
1	Economic factors(x1)	0.645	0.416	0.412 <sup>a</sup>	1.139
2	Educational factors(x2)	0.723	0.523	0.516	1.03
3	Socio-cultural factors(x3)	0.751	0.564	0.555	0.991

**Table 4: coefficients of variables entered to regression equation**

Variable	B	B standard error	Beta	T	Sig.
Economic (x1) factors	1.691	0.212	0.796	7.967	0.000
Educational factors (x2)	0.894	0.151	0.360	5.931	0.000
Socio-cultural (x3) factors	0.914	0.250	0.356	3.357	0.000
Constant number	9.560	0.717	-	-	-

According to linear regression equation  $Y = a + b_1 x_1 + b_2 x_2 + \dots$ , equation is as follows:

In terms of B:  $Y = 9.560 + 1.691 x_1 + 0.894 x_2 + 0.914 x_3$

In terms of  $\beta$ :  $Y = 0.796 x_1 + 0.360 x_2 + 0.356 x_3$

**DISCUSSION AND CONCLUSION**

This study was conducted to examine the factors affecting the attitude to consumption of organic products in fruit and vegetables markets of Tehran municipality. Results showed that from the viewpoint of respondents, the most important economic, educational, and socio-cultural, and policy-making factors affecting the attitude to consumption of organic products were respectively economic policy of the government on agricultural issues to support sellers, holding educational-extension workshops for employees in the use of organic products, government support of the production and distribution of organic products and private sector participation in the introduction and distribution of organic products in fruit and vegetables markets. The results of correlation test showed that there is a significant positive relationship between economic factors and attitude to consumption of organic products from the viewpoint of employees of fruit and vegetable markets organization. This result is in line with the results of the research conducted by Ajoodani and Mehdi Zadeh (2009) and Asadi, et al (2010). The results of the research showed that between there is a

significant positive relationship between educational factors and attitude to consumption of organic products from the viewpoint of employees of fruit and vegetable markets organization, which it is in line with results of studies conducted by Ajoodani and Mehdi Zadeh (2009), Karimi (2009), and Asadi et al (2010). In addition, results showed that there is a significant positive relationship between policy-making factors and attitude to consumption of organic products from the viewpoint of employees of fruit and vegetable markets organization, but Ajoodani and Mehdi Zadeh (2009) did not find significant relationship between them. In addition, results showed that there is a significant positive relationship between socio-cultural factors and attitude to consumption of organic products from the viewpoint of employees of fruit and vegetable markets organization. This result is in line with the results of the research conducted by RezaeiMoghaddam et al (2010) and Karimi (2009). The results also show that there is a significant positive relationship between level of familiarity with organic products and attitudes to consumption of organic products from the viewpoint of employees of fruit and vegetable markets organization. This result is in line with the results of research conducted by Saeedi et al. (2009) and Wheeler (2008). Results of regression test showed that the most important economic factor variable was the most important factor affecting attitude to consumption of organic products, so that this variable alone could explain 41.2% of changes in dependent variable. The variables of economic, educational, socio-cultural factors explained 55.5% of changes in dependent variable. Studies conducted by Ajoodani and Mehdi Zadeh (2009), Karimi (2009), Asadi et al (2009), Stobbelaar et al (2006) and Wheeler (2008) has confirmed the above findings.

**RECOMMENDATIONS**

Due to the fact that the economic factors have influencing impact on attitude to consumption of organic products, it is suggested that:

- Encouragement of producers by government using different incentive methods (including production rewards, granting interest-free or low-interest loans), providing suitable exporting facilities for them to expand production of organic products and control the production and use of fertilizers, and chemical pesticides and pest, and prevent the production of unhealthy products or indiscriminate use of these materials.

- Support of Agricultural Products Insurance Fund by the Government

- Development of insurance culture using mass media and holding educational workshops

Considering the fact that increasing the level of awareness of health is possible through education and informing, it is recommended:

- Installation of educational banners in the streets
- Making the culture of change in consumption beliefs and views and habits in society
- Holding conferences and seminars on organic products
- Holding organic products workshops

- Use of packaging products for education, including the insertion of a message
- Preparing educational packets and leaflets and donation to consumers

#### REFERENCES

1. Aertsens J., Huylenbroeck G., and Verbeke W. (2011). Organic food as an emerging market: personal determinants of consumption, supply governance and retail strategies, PhD dissertation, Ghent University. Faculty of Bioscience Engineering.
2. Ajoodani, Z (2010). Survey the possibility of developing and promoting organic agriculture in Kermanshah province from the perspective of agricultural experts. MA thesis, Islamic Azad University, Science and Research Branch of Tehran, Iran.
3. Babaakbry, M., Asadi, M., Akbari, M. (2008). Evaluation of the factors that influence consumer attitudes on adoption of organic agricultural products, Economic Research Journal in agricultural development in Iran, issue 1
4. Chaharsooghi Amin, H, Mousavi, SA, Hosseini, SJ (2007). The factors affecting the adoption of sustainable agriculture in irrigated wheat farmers in the province. New findings of agriculture. Volume II. Issue 1, fall. Pp 95-82.
5. IFOAM. (2008). International federation for organic agriculture movement (IFOAM), Retrieved March 26, 2012 from <http://www.ifoam.org>.
6. Kucheki, A (2013). Zoning the status of sustainable agricultural development in Iran and providing strategies for sustainability. Journal of Agricultural and sustainable production, Volume 23, Issue 4.
7. MalekSaedi, S., H., RezaeeMoghadam, K, Ajili, A (2010). Studying the knowledge of Agriculture Jihad experts in the field of organic agriculture, Journal of Iran Agricultural Extension, Issue 12, pp. 61-49.
8. Mohamadian, M (2011). Educational needs of potato growers in city of Damavand in the production of organic products. MA thesis, Islamic Azad University, Science and Research Branch of Tehran, Iran.
9. Moradi, P, and OmidiNajafabadi, M (2011). Barriers to use standards of appropriate global agriculture practices (Global Gap) in Iranian agricultural sector. Research Agricultural Extension and Education, Issue 1. pp 39-27.
10. Ranjbar Shams, H, and OmidiNajafabadi, M (2014). Factors affecting consumer attitudes on consumption of Tehran organic agricultural products. Agricultural Extension and Education Research, Vol. VII, Issue 2, pp. 62-51
11. Asadi et al (2010) "The factors contributing to distribution of organic products among consumers."
12. -Stonehouse, D. P. March (2013). A holistic systems approach to addressing sustainability issues in the agri-food sector. In : The Journal of Agricultural Education and Extension. Vol. 9. No.1. pp.
13. Wheeler, S. 2008. What influences agriculture professionals' views towards organic agriculture?. Ecological Economics, 65(1) , pp 145-154. Available at : <http://een.anu.edu.au/e05prpap/wheeler.pdf>.