

Full Length Research Paper

Consumer view and utilization of natural food in Turkey

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The organic food market in Turkey has experienced a significant growth over the past decade. The goal of this paper is to explore Turkish consumers' nature of demand for organic food products. The effect of four factors, consumer trust, health considerations, environmental benefits and availability, on the frequency of organic food product purchases is analyzed. The survey study takes place in Istanbul and Ankara, Turkey with the participation of 215 consumers. The results of this study indicate that the main reasons for purchasing organic foods are that consumers believe them to be healthier, tastier, fresher and that organic products are environmentally friendly.

Key words: Organic foods, consumer behavior, purchase intentions, gender effect.

INTRODUCTION

The organic food market has been increasing at approximately 20% per year since 1990, when total organic food sales were \$1 billion, compared to \$17 billion in 2006 (Dimitri and Greene 2002; Klonsky and Greene 2005; Organic consumers association, 2007). Consumers are attracted to organic foods because of their characteristics, such as being environmental-friendly and pesticide free (Dimitri and Greene, 2002). Recent increases in organic food demand can be attributed to the increased availability, which lowers search costs, and increased selection and variety (Dimitri and Greene, 2002). As more organic consumers emerge, the importance of understanding their motivations grows. Organic products satisfy three main desires at the same time. Many consumers perceive these products to be tastier and healthier than conventionally produced products and the production process is less damaging for the environment (Dimitri and Greene, 2002; Huang, 1996; Durham and Andrade, 2005). Previous research on consumer interests in the U.S. and Europe have focused on fresh produce, and has mostly used quantitative methods (Millock et al., 2004; Schifferstein and Oude 1998; Torjusen et al., 2004; Torjusen et al., 2006; Klonsky and Greene, 2005). This research was designed to build knowledge about consumers' interests, attitudes and

and perceptions of diverse organic food products in Turkey.

In recent years, substantive research studies have been conducted in different countries on consumers and organic food products. They have covered a broad range of issues including consumer awareness and knowledge about organic foods; consumers' attitudes and perceptions; consumers' preference for organic foods; and willingness to pay for organic food products. Yiridoe et al. (2005) provide a review of the literature on consumers and organic foods on those issues. We specifically mention the empirical studies of the demand for organic foods, since they are in line with the aim of our paper, to analyze consumer demand for organic foods.

Thompson (1998) compared different studies of consumer demand for organic products conducted in USA. He concluded that demographic variables such as age, marital status, number and age of children and education are important variables in explaining consumer demand for organic food. Blend and van Ravenswaay (1999) and Wessells et al. (1999) analyzed American consumers' demand for eco-labelled apples and seafood, using a logit and a double hurdle model, respectively. They found that factors affecting consumer demand for eco-labelled products are the price premium, environmental concerns and attitudes, and some demographics such as education and gender. Most empirical papers on organic food demand have analyzed the factors affecting consumers' choice for organic foods. These studies can be grouped in two categories based on their methodology.

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on their methodology. One group consists of papers that have used a discrete choice model to examine factors affecting consumers' choice for organic foods. The other groups of studies have also explored the major factors leading to organic food choice but they use different methodological approaches.

Verhoef (2005) used a discrete choice model to explain the choice and purchase frequency of organic meat in the Netherlands. He specified a probit and ordered probit model including economic and marketing variables together with consumers' emotions such as fear and guilt as well as environmental concerns and attitudes as explanatory variables. He also included consumers' socio-demographic characteristics. Results of his study suggest that economic and marketing variables have significant effects on both the choice and the frequency of purchasing organic meat while consumers' emotions, socio-demographic characteristics only affect the frequency of purchase.

Padel and Foster (2005) explored the main factors associated with organic fruit and vegetable choices of British consumers by using focus groups and laddering interviews. They concluded that, the strongest reason for buying organic food was health-related. In addition, social aspects, like support of local farming, fair trade and environmental benefits, are also factors explaining the organic buying decision. Loureiro et al. (2001) evaluated American consumers' choice of eco-labelled, organic and regular apples using a multinomial logit based in the random utility choice model. They found that apart from some socio-demographic characteristics such as children, family size and gender, the factors affecting the probability of choosing organic apples are consumers' environmental and food safety attitudes.

Thompson and Kidwell (1998) analyzed consumers' choices of organic and conventional produce in Arizona, USA. Based on a discrete random utility choice model, they specified a two-equation probit model to estimate the choice of produce (organic vs. conventional) and the choice of store. Results of this research show that the probability of buying organic foods depends on store choice, price levels, and consumers' demographic characteristics such as, the presence in the household of children and education. Torjusen et al. (2001) examined the factors affecting the choice of organic produce on consumers in Norway. Results of this research indicate that income is positively related to the probability of buying organic foods, while other socio-demographic characteristics are not statistically significant. Some food attributes such as local produce and health aspects are also statistically significant in explaining organic food choice.

Durham and Andrade (2005) specified a two binary choice model for organic fresh fruit and vegetables in Oregon, USA based on a discrete choice random utility framework. Results indicate that the main reasons for organic purchase are concern for health and the environment

but that environment is more influential than health in consumers' decision to purchase. Price and demographic variables also explain the buying decision. Tsakiridou et al. (2006) analyzed the decision to consume organic olive oil together with the purchase quantity for Greek consumers. They assume that factors affecting both decisions are income, socio-demographic consumer's characteristics, as well as, attitudes towards the environment and organic products. Findings indicate that factors explaining the probability to purchase organic olive oil are household size, age, income and attention paid to food labels. However, consumer's attitudes towards organic product attributes, food safety and environmental concerns were reported as not statistically significant in explaining the probability of purchasing organic olive oil.

Research hypotheses

The aim of this study is to assess consumers' attitudes and preferences about organic food products. Organic consumers are analyzed to uncover differences in attitudes, preferences and consumption patterns of Turkish consumers living in Istanbul and Ankara, Turkey. In this study, the main research questions we attempt to answer are the following:

Question 1: Do Turkish consumers have an increasing awareness of and demand for organic food products?

Question 2: What are the main factors that motivate consumers to purchase organic food products?

Question 3: With respect to organic food purchase and consumption, do male and female consumers show varying attitudes and purchasing preferences?

Therefore, we generate the following hypotheses:

H₁: Consumer trust, health considerations, environmental benefits and availability factors have an effect on the frequency of organic food product purchases.

H₂: Gender variable has an effect on the frequency of organic food product purchases.

H₃: There is a significant relationship between a consumer's income level and the frequency of organic food product purchases.

H₄: There is a significant relationship between a consumer's educational level and the frequency of organic food product purchases.

H₅: There is a significant relationship between a consumer's age and the frequency of organic food product purchases.

METHODOLOGY

Starting in September 2008, a total of 215 surveys were conducted with urban, Turkish consumers living in Istanbul and Ankara, the two biggest cities of Turkey. Customers were approached randomly

Table 1. Allocation of respondents according to demographic variables.

Variable	Frequency (n)	Percentage (%)	Variable	Frequency (n)	Percentage (%)
Education level			Marital Status		
Primary school	53	24.7	Single	40	18.6
High school	60	27.9	Married	165	76.7
Undergraduate degree	58	27.0	Widow	10	4.7
Graduate degree	44	20.5	Total	215	100.0
Total	215	100.0			
Income Level			Gender		
400 – 999 TL	14	6.5	Female	120	55.8
1000 – 1499 TL	71	33.0	Male	95	44.2
1500 – 1999 TL	29	13.5	Total	215	100.0
2000 – 2499 TL	37	17.2	Age	n	%
Total	215	100.0	20-29	55	25.6
			30-39	54	25.1
			40 and over	106	49.3
			Total	215	100.0

Table 2. Frequency of organic food purchases.

Time interval	Frequency	Percentage
Once a week	38	17.7
Every two weeks	141	65.6
Once a month	8	3.7
Every two months	28	13.0
Total	215	100.0

at six malls in Istanbul and four malls in Ankara. These malls were selected at a variety of different locations throughout both cities to ensure that a range of customer types were included in the study. As seen in Table 2, participants in this study were adults of diverse ages, incomes, educational backgrounds, gender, and occupations who were primary food shoppers in their households (Table 1). The surveys consisted of 34 questions and were completed in March, 2009.

The major purposes of the surveys were: to identify participants' specific interests related to the previously defined topics of the research; to learn the factors that lead to demand for organic food products, their concerns and experiences about organic products and the frequency of their organic food consumption. Both consumers and non-consumers of organic products were surveyed in similar proportions. Other criteria for recruiting and quotas were: preferred point of purchase (organic specialty shops and super-markets), shopping habits (weekend or on weekdays), and type of residential area (urban consumers were particularly targeted for the study).

Prior to hypotheses testing, factor analysis was conducted to determine the independent variables of the study. Ambiguous items were eliminated from the survey by varimax rotation. Consequently, the research instrument revolved around four major factors: Consumers' trust, health considerations, environmental benefits and availability of organic food products. The data collected from the surveys was put through a validity assessment (KMO= 0,820;

Bartlett's Test sign = 0,000) thus revealing that the sample of the study was appropriate for factor analysis and that there is a strong relationship between the variables. The reliability analysis of the research instrument yielded a Cronbach's Alpha value of 0.91 and a significance level of 0.000.

RESULTS

Majority of the respondents in the study are 30 years and older. Half of them hold an undergraduate/graduate degree and earn a monthly income of 2000TL (approx. \$1400) and over. Such an income level would indicate that consumer belongs to middle to upper income level in the country. This finding is consistent with previous studies that portray "organic buyers" as well-educated and high income earners.

The respondents were asked about the availability of organic products and how often they purchase organic food products. As seen in Table 2, when the respondents were questioned about how often they make organic food purchases, most (% 65) claimed to make regular purchases every two weeks. Respondents were also asked about

Table 3. Point of purchase for organic food products.

Purchase locations	Frequency	Percentage
Supermarkets	101	47.0
Farmer's markets	78	36.3
Specialty shops	36	16.7
Total	215	100.0

Table 4. Allocation of respondents according to major reasons for organic food purchases.

Reason for purchases	Frequency	Percentage
Health benefits	140	65.1
Natural	150	69.8
Tasty	101	47.0
Preservative-free	169	78.6
High quality	98	45.6
Hygienic	90	41.9

asked about the locations where they make these purchases. Almost half of them claimed that they visit their supermarket's organic food sections for their purchases. Farmer's markets and specialty shops were also mentioned as top locations for organic food purchases (Table 3). In addition, the survey shows that 38% of the respondents go shopping for organic foods once a week, 8% prefers to shop once a month and the remaining 28% visits organic food stores and supermarkets every two months.

When the respondents were asked about their primary reasons for purchasing organic food products, they listed the following items depicted in Table 4. The majority of the consumers said that organic products are good for their health, are more natural than other products, have a much better taste and that they do not contain preservatives/pesticides. When asked about their preferences regarding specific product categories of available organic foods in Table 5, many respondents mentioned baby food and bread/bakery products as their top picks. Organic vegetables, fruits and milk products were also highly preferred.

With the first hypothesis we examined the effect of four factors (consumers' trust, health considerations, environmental benefits and availability) on the frequency of organic food product purchases. Multi-regression analysis was conducted to assess the effect of these four factors. The analysis revealed that these four factors' effect on the frequency of organic food product purchases was statistically significant ($p = 0,000 < 0.05$). Thus, H_1 was accepted. The regression value ($R = 0.82$) proves that there is a strong, positive relationship among the four variables. It was concluded that consumer trust, health considerations, environmental benefits and availability of organic food products account for 68% of the variation in

Table 5. Allocation of respondents according to most preferred organic food product groups.

Preferred organic food	Frequency	Percentage
Baby food/formula	135	62.8
Flour /bakery products	132	61.3
Vegetables	84	39.1
Fruits	81	37.6
Milk /milk products	79	36.7
Legumes	74	34.4
Mixed nuts/dried fruits	68	31.6

the frequency of organic food product purchases ($R^2 = 0.68$). According to standardized beta coefficients, the four independent variables can be listed as consumer trust ($\beta = 0.473$); health considerations ($\beta = 0.328$); availability ($\beta = 0.238$), and environmental benefits ($\beta = 0.174$) (Table 6).

With the second hypothesis we assessed whether gender variable has any effect on the frequency of organic food product purchases. T-test was performed on H_2 and Levene's test results indicated equal variances between both male and female consumer groups ($F = 0.982$; $p = 0.323$). No significant differences could be detected, implying no support for H_2 ($p = 0.226 > 0.05$). Third hypothesis tested the relationship between a consumer's income level and the frequency of organic food product purchases. Following the correlation analysis performed on this hypothesis, the significance level was reported as

(p) $0.004 < 0.05$, providing evidence for the support of H_3 . The correlation coefficient between the two variables ($r = 0.19$) indicate a weak but positive relationship between a consumer's income level and his frequency of organic food purchases. Next, we investigated whether there is a significant relationship between a consumer's educational level and the frequency of organic food product purchases (H_4). The correlation analysis performed on H_4 yielded a significance level of (p) $0.011 < 0.05$, implying support for H_4 . On a similar note, the correlation coefficient between the two variables ($r = 0.17$) indicate a weak but positive relationship between a consumer's education level and his frequency of organic food purchases.

Lastly, H_5 assessed the relationship between a consumer's age and the frequency of his organic food product purchases. The results of most studies conducted in Western and Asian countries conclude that consumers of organic products tend to have a specific profile. These consumers are older, hold an academic degree, and have a higher income level which makes them more likely to purchase organic products. With this study, a similar profile can be said about Turkish consumers since there is evidence of a relationship between the frequency of their organic food purchases and income and educational level variables. However, the correlation analysis performed on H_5 yielded a significance level of

Table 6. Regression analysis results for H₁

Factors	Unstandardized coefficients		Standardized coefficients		
	B	Std. Error	Beta	t	Sig.
1 (constant)	-0.029	0.168		-0.175	0.861
Health considerations	0.271	0.035	0.328	7.786	0.000
Consumer trust	0.359	0.033	0.473	10.920	0.000
Environmental benefits	0.126	0.031	0.174	4.019	0.000
Availability	0.161	0.030	0.238	5.359	0.000

(R= 0.82 R²= 0.68 p=0.000).

(p) 0.134<0.05, thus we state that there is no significant relationship between a consumer's age and the frequency of his organic food product purchases.

Conclusion

In summary, the samples of organic food consumers in the urban communities of Istanbul and Ankara have diverse interests and beliefs that motivate their organic food purchasing behavior. While considerations about the health and environment benefits of these organic products appear to be strong motivators for most organic food buyers, their superior taste and quality along with their increasing availability appear to be just as significant among more frequent buyers of organic foods. Perhaps it is a broad range of interests that solidifies the commitment to organic for these frequent buyers. The greatest opportunity for increasing sales of organic foods seems to be among people who are currently occasional buyers of organic foods, rather than among those people who buy no organic foods at all. However, there may also be opportunities to increase sales among the group of people that currently buy no organic foods, but are considering buying organic foods in the future. For all consumers, messages must be carefully targeted and must build on their relevant values.

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