

The Consumers' Behaviors Towards To a Regional Agricultural Product in Turkey

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Abstract : *It is aimed to evaluate consumers' behaviors towards to a regional agricultural product, known as isot pepper, in Turkey by means of willingness to pay and consumption amount and explore the potential factors that contribute to it by this study. The data come from eight provinces which were selected as purposeful, represent 42.8% of Turkey's population, with a sample of 1,594 consumers from different socio-economic and education levels by simple random sampling method and interviewed face to face. Likert, SPSS and Linear regressions analyses were used. The results indicate that consumers have misperceptions about bitterness and usage areas of pepper that results to narrow down the usage and the amount. Feelings explain 35.6% and behaviors explain 15.1% of consumption amount individually. Food safety certification is the most important factor for buying. The average willingness to pay and yearly consumption have been determined as \$11.94 per kg and 10.7 kg respectively. Explanatory factors, such as color, brand, purchasing trust and income significantly explained willingness to pay.*

Keywords: *Consumers' attitudes, consumption amount, isot pepper, local agricultural products, willingness to pay*

I. Introduction

Regional processed agricultural food products are used as a tool of development in the market has gained importance in recent years. Therefore, branding to distinctive properties of regional food products and to increase the added value activities are required. This case will lead to the formation of new income areas, thereby contributing to social welfare. Red pepper is a high value product both in economics and vitamins aspects and has a quite wide range of usage areas. Many studies were conducted on humans and animals for testing affect of pepper. Pepper adds flavorful to meals and loaded with vitamins and disease-fighting properties such as control cholesterol, burn off fat, keep arthritis at bay, lower risk of breast cancer, protect heart and prevent stroke [1]. Peppers have been shown to enhance diet-induced thermo genesis and reduce energy intake in some studies [2]. The metabolic syndrome is associated with an increased risk of cardiac mortality, as it is characterized by the clustering of multiple cardiovascular risk factors. Studies have shown that capsaicin (red pepper) may be useful as a nutraceutical, ameliorating metabolic profile and cardiovascular function [3]. Animal studies were conducted to evaluate the influence of dietary spice compounds and concluded that spices may contribute to a higher antioxidant protection [4].

Red pepper has a wide range of uses as fresh and dried. Both largely produced in Turkey and the world. Red pepper cultivation area is about 2 million hectares (ha) and approximately 420 thousand tons of dry red pepper exports in the world. The share of total world exports in Turkey is about 1330 tons [5]. The amount of production in the world is about 24 million tons of fresh red pepper [6]. Turkey; both in terms of the production of red pepper as well as the consumption as a spice take first places in the world with a 11268 ha of cultivation areas and 165527 tones of fresh red pepper productions [7].

Red pepper cultivation has an important potential as an alternative agricultural products with a share of 81.1% of cultivation areas and 77.9% of fresh red pepper production amount of Turkey in GAP region [7]. One of the main reasons of red pepper that makes it as a critical product of GAP Region is traditional red pepper spice production which is known as isot that is a cultural product. Previously, isot pepper was produced only for their own private consumption by the regions people. Today, isot pepper began to be seen as an important source of income for low income family groups, especially for women. Consumers have begun to show a tendency towards traditional products with natural features. This situation provides opportunity to Şanlıurfa isot pepper to become marketable product in the national and/or international markets. Şanlıurfa is located in GAP region with a potential of 37.7% of red pepper cultivation areas and 47.7% of production amount of Turkey [7]. There is a substantial share of ecological conditions such as climate and environment on isot pepper productions in terms of traditionally engaged many small family entrepreneurship. Şanlıurfa has 16 fabrication and almost 500 traditional manufacturing family enterprises with a total capacity of 3553 tones [7, 8]. As a defining

characteristic of isot pepper mainly arises from red pepper varieties, traditional processing methods together with seasonal conditions such as sun, temperature and humidity in Şanlıurfa. The characteristic relationship has not been fully explained with these critical factors that make isot pepper apart from others such as the fabricated products. On the other hands, there are marketing problems mainly based on imitation, adulteration, insufficient information by consumers lead to misperception to isot pepper. As a result, peppers businesses have been forced to produce below their production capacity that is 67.4%, expected value and income could not be obtained [7, 8].

The distinctive features of isot pepper based on tradition of defining geography have to be defined as a usage of economical source is required. Isot pepper can be produced in black and red colors too. This study is aimed to support to the branding potential and marketing capacity of isot pepper. So, consumer preferences and attitudes must be known. Consumers' attitudes to a buying of certain product may influences from many factors. All of us undoubtedly know people who are very planned and organized, while others appear to be much less so. A little is currently known about how the situational mindsets of a particular purchase decision intertwine with planning orientation [9].

One of the recurring themes within commentaries of the cultural economy is the tension between the desire of producers to exercise control over consumers and consumers' sovereignty [10]. The consumption is based on a decision making process that is consumer's needs, usages, habits, tastes, expectations, concerns about the products and price, simply attitudes and consumption behaviors [11]. In other words; consumer attitudes are a composite of a consumer's beliefs, feelings and behavioral intentions toward some object--within the context of marketing. A consumer may hold both positive beliefs toward a product as well as negative beliefs. In addition, some beliefs may be neutral, and some may be differ in valance depending on the person. Since a consumer holds many beliefs, it may often be difficult to get overall belief about the product good or bad. Consumers also hold certain feelings toward products, generally based on the beliefs. The behavioral intention is what the consumer plans to do with respect to the product, buy or not to buy [12]. The beliefs are mainly dominant factors for consumption of the consumers.

II. Materials And Methods

The main materials of this research come from Şanlıurfa, Adana, Antalya, Bursa, Izmir, Ankara, Istanbul and Sivas provinces' consumers which were selected by simple random sampling method and data obtained from surveys that were conducted face to face. These provinces have been selected as purposeful. Istanbul, Ankara, Izmir and Bursa are the top four most crowded cities in terms of population in Turkey. Şanlıurfa and Adana have intense consumption of peppers and located at hot areas. If there are, in order to measure the impact of climate on consumption Antalya is selected from hot climate zone and Sivas is selected from cold climate zone. Total populations of these cities represent 42.8% of Turkey's that is 77.7 million at the end of 2014 [13]. The surveys were conducted in all provinces in the first months of 2015. The sample of this study was consisted of 1,594 consumers, starting the age of 18 years and above from different socio-economic and education levels.

Likert attitude scale was used in the research, developed by R. Likert (1930) in USA. In the questionnaires, various questions were asked to determine behaviors towards to isot pepper, related to consumers' beliefs, feelings and behavioral intentions. The principle is that consumers assign their judgment in the researched topics that is isot, red pepper ranging from "strongly agree" to "strongly disagree" and focusing on these judgments. The judgment statements should have a single meaning and definite outcomes. Twenty-nine questions were asked in order to determine consumers' beliefs, feelings and behavioral intentions. After that these questions were made groups to measure consumers' attitudes towards to isot pepper. Anova, Post hoc, Bonferroni and regression tests were applied in order to define significance and widely used at studies in SPSS [14, 15, 16, 17, 18, 19].

2.1. Reliability Statistics

Cronbach's Alpha measures internal consistency, which provides information about the reliability of a multi-item scale. Values exceeding 0.6 indicate internal consistent scales, in other words, all items incorporated in the scale measure the same underlying construct [11, 20, 21]. The Cronbach's Alpha coefficient from data set found as 0.85 and interclass correlation coefficient significance of F test with true value was measured as $P < 0.01$ that indicates this study is reliable.

III. Results and Discussion

The 54.2% of consumers' surveyed were women and men are 45.8%. Their average age is 35.1 years, while the average number of households has been identified as 5.4 people. 37% of respondents were graduated from elementary school, high school was 22.5%, 33.3% of graduated from university and 7.2% has master and more degree. In terms of their occupations: 11.2% of these a tradesman, 23.8% of private sector employees,

17.4% of public sector employees, 4% of retired, 1.6% of farmer and 42% of unemployed that is mainly composed of the housewives and students. Their monthly income is 47.9% of \$649 and less, 30.8% are between \$650-1275, 9.8% of \$1276-1915 and 11.5% of \$1916 and over, 1\$=2.35 Turkish liras at surveyed time [22]. It can be summarized as 48% of them from lower, 31% of medium and 21% of upper income levels. The average annual consumption of isot pepper amount has been identified as 10.7 kg.

Isot pepper can be produced in black and red colors. Black color pepper obtained after treatment in plastic bags under the sun with certain humidity that needs more care, workmanship and time. Consumers' color preferences were determined as 34.7% in black, 24.7% in red and 40.6% both colors. Purchase amounts show differences depending on the provinces, this is an expected result based on food cultures. Consumers outside Şanlıurfa buy mainly small amount weight that was 41.9% as in the form of 100 grams packages from markets by 45.1%. Consumers were mainly used pepper as spice by 56.9%, 23.7% as food and cuisine culture and 19.4% as traditional taste. Consumers who use as a traditional taste consumes 7.13 kg more as compared to food and cuisine culture consumes and 7.41 kg more to the ones who use as a spice ($P<0.05$). Consumers believe that isot pepper means bitterness by 83.5%, isot pepper from Şanlıurfa is very bitter by 86.2% and only used in certain foods by 84.3% based on sensations. These beliefs of consumers were narrow down usage areas and the amount of use. Actually isot pepper can be produced in different bitterness and be able to use in many different dishes too. Because traditional taste is a sensation, along with smell and stimulation that determines flavors of food and consumed more based on food cultures. A person can perceive literally hundreds of different tastes as combinations sensations [23].

Consumers were asked the important factors that they consider during decision of buying pepper. It has been determined that food safety certification is the most important factor. Food safety is about handling, storing and preparing food to prevent infection [24] and information on health-enhancing food selection and consumption behaviors are getting more important. Food safety is more important to consumers with children, elderly individuals or pregnant women in the household, because of chemical residues [25]. The weight and quantity is the least important factor for buying of consumers. In fact it was being expected that price would be the most important factor. Since majority of consumers use pepper as a spice and buying small amounts, this result is acceptable. In other word price is not determinant factor for consumption, because it take place small amounts in their expenditure budget. So they may either buy or pay more, if they have more knowledge about isot pepper. Packaging is ranked at second lowest. It is expected to be ranked higher. Packaging protects food from contamination, environmental effects and food born diseases [26]. The consumers' perceptual experience led to preference of the well-crafted high-priced option [27]. It can be explained by brand and shopping trust. Brands can signal reputation serve as proxies for trust, consumer preferences for credence attributes may differ for branded and non-branded products [28]. The importance of factors in percentages for consumers is given in Table 1. The factors to be considered after the purchase decision by consumers is given in Table 2. The most important factor is taste and the least one is appearance based on sensations.

Consumers believe that quality pepper is expensive by 74.2%, an expensive pepper is a good one by 65.6% and cheap one is not a quality one by 64.6%. In order to define willingness to pay (WTP), consumers were asked how much they want to pay for an ideal isot pepper with a given lowest price as 4.25 \$/kg. The average WTP has been determined as \$11.94, which is higher than 16% of existing average price. The significance was determined as $P<0.01$ between and within groups and the mean difference of multiple comparisons is significant at the level of $P<0.05$. The lowest price determined from Bursa as \$9.96 and the highest one from Istanbul as \$15.21, that means consumers from Bursa have 19.9% less WTP and Istanbul consumers have 27.4% more than average value. In order to define the factors that affect WTP of the consumers, color, brand trust and shopping from known places that means purchasing trust, usage reason of pepper, buying quantity and income were selected as independent variables. The results were given in Table 3.

Those who prefer the black color has more WTP as compared with the other groups by 9.1%. Brand trust and shopping from known places or producers, purchasing trust, are increasing WTP of consumers by 8.8%. These results are expected, acceptable and statistically significant. Based on usage reasons the biggest group is spice users, then food and cuisine culture users that are expected. The consumers those whom use pepper as traditional taste has less WTP as compared with food and cuisine culture by 1.8% and 2.2% of who use as a spice. These are acceptable results but with limited impacts that is unexpected. Because traditional taste consumers are the smallest in terms of usage reasons, however the biggest one in terms of consumption amount as compared with the others. Accordingly more payment means more welfare loose, so it was expected that they would have much less WTP than current results. The results are not statistically significant and indicate that usage reasons have not meaningful affect on WTP of consumers. On the other hand, it was observed that traditional taste users give more importance to isot pepper for dishes during the survey. So it could be explained that traditional taste users give more attention to isot pepper regardless of considering its price that is compulsory goods for dishes. Price also has less affects on consumption amount and R^2 was found as 0.037 according to regression analysis.

WTP of consumers more or less remained same until 500 grams and less than 1.7% of average value, after that it increases by 1% of average value. The results are not statistically significant and indicate that buying quantity has not meaningful affect on WTP of consumers. This is an unexpected result and against basic economics rules for the constant price and the quantity, that is quantity and price has reverse relations, when one of them is increasing, another one is decreasing. Vice versa is true too. It could be explained that bigger amount users are mainly from traditional taste user group; isot pepper is a compulsory good and more WTP for an ideal isot pepper. Lower income level has WTP less than 4% of average value, 3.7% of medium income and 11.1% of upper income levels. Medium income level has WTP less than 0.03% of average value and 7.2% of less than upper income level. Upper income level has WTP more than 6.9% of average value. The results are statistically significant and acceptable but as identified with little impact that is unexpected. It has been identified that consumption amounts decreases with increasing incomes that is expected result. This can be explained due to the lower and medium income groups are more cooking at home, so consumption is more, too. The mean differences of multiple comparisons of independent variables on WTP of consumers were given in Table 4.

In order to define the factors that affect consumption amount, that is dependent variable; income, feelings after decision of buying and household number was selected as independent variables. Regression analysis is done for the factors. Analysis is first performed for the individual factors, one by one, after that they were pooled analysis of three factors all together as a model. Feelings after decision buying factor is composed of sub factors of color, smell, appearance, taste, bitterness and hygiene, which are significant in themselves in terms of coefficients ($P < 0.01$ and $P < 0.05$). Income 14.7%, feelings after decision of buying 35.6% and household 36.8% explain consumption amount based on individual factors. Correlations are significant at the $P < 0.01$ (2-tailed) for individual factors. There is a reverse relationship between income and consumption amount. Same relationship was identified with education too. Education level explains 10.3% of consumption amount. When one of them is increasing, the other one is decreasing. The significance of the model was measured as $P < 0.01$. Pooled analysis of three factors all together as a model was tested and the result indicate that it explains 49.6% of consumption amount all together. Usage reason 9.4% and attitudes towards to isot pepper explains 15.1% of consumption amount individually. Correlations are significant at the $P < 0.01$ (2-tailed) for individual factors. Pooled analysis of two factors all together as a model was tested and the result indicate that it explains 19.8% of consumption amount all together and significance was measured as $P < 0.01$. The effect of climate on the consumption amount and WTP was not determined which are statistically insignificant.

Consumers' knowledge, attitudes and behaviors are different to consumptions based on socio-economic factors. Consumers' behavior in the culture of consumption plays a major role [29]. Consumers have misperceptions about bitterness taste and usage areas of pepper that results to narrow down usage and the amount of use. Distastes, aversions, and dislikes are much more socially diagnostic than positive desires [30]. Informative extension services should be done by means of written and visual media such as newspapers, TV and radio programs. Specifically cooking programs for women will increase potential usage areas of pepper. Broadcasting and advertising industries conceptualized the female consumer on early daytime television which is predominantly female audiences [31]. The role of buying practices in ordinary conversations has been largely neglected. Minor items and major purchases regularly play a key role [32] in consumptions.

I. TABLES

Table 1. The importance of factors in percentages for consumers' buying

Factors	Importance percentage
Price	73.7
Food safety certificate	78.8
Brand and brand trust value	76.1
Place of production (produced Province and Region)	78.5
Packing and packaging appearance	63.2
Weight and quantity	62.2
The selling shop	74.3

Table 2. The importance of factors for consumers' after purchase decision of isot pepper

Factors	Importance percentage
Color of pepper	84.5
Smell and flavor	80.3
Appearance	78.2
Taste	86.9
Bitterness	81.2
Freshness, date of production, hygiene	86.2

Table 3. Factors that affect WTP of consumers

Factor	Relationship	Sum of Squares	df	Mean Square	F	Significance
Color	Between Groups	1678,771	3	559,590	5,437	0,001 ^a

	Within Groups	163655,83	1590	102,928		
Purchasing trust	Between Groups	986,980	3	328,993	3,183	0,023 ^b
	Within Groups	164347,62	1590	103,363		
Usage reasons	Between Groups	85,454	2	42,727	0,412	0,662
	Within Groups	164922,65	1590	103,725		
Buying quantity	Between Groups	244,879	4	61,220	0,591	0,669
	Within Groups	163240,56	1576	103,579		
Income	Between Groups	1691,317	2	845,658	8,204	0,000 ^a
	Within Groups	160503,05	1557	103,085		

^{a, b} The mean difference is significant at the 1%, 5% level respectively.

Table 4. The mean differences of multiple comparisons of independent variables on WTP

^{a, b} The mean difference is significant at the 1%, 5% level respectively.

Factors	(I)	(J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Color	Black	Red	2,536*	0,669	0,001*	0,77	4,30
		Both	1,408	0,729	0,542	-0,52	3,33
Purchasing trust	Known place	Retailer	1,470	0,868	0,543	-0,82	3,76
		Markets	2,476*	0,848	0,021 ^b	0,23	4,72
Usage reasons	Traditional Taste	Grocery	0,768	0,682	1,000	-1,03	2,57
		Food and cuisine culture	-0,481	0,621	1,000	-1,97	1,01
Buying quantity	100 grams	Spice users	-0,026	0,648	1,000	-2,08	1,03
		250 grams	-0,019	0,908	1,000	-2,57	2,53
		500 grams	0,137	1,010	1,000	-2,70	2,98
		1000 grams	-0,528	1,020	1,000	-3,40	2,34
Income	\$1276 and more	More than 1 kg	-0,796	0,719	1,000	-2,82	1,23
		\$649 and less	2,788*	0,696	0,000*	1,12	4,46
		\$650-1275	2,361*	0,749	0,005*	0,57	4,16

IV. Conclusion

Today, consumers are becoming more selective about health matters and more shopping related to health issues, regardless of their income level. It is also known as red pepper has positive effects on health, so same policy might be done for health program, too. Food safety certification is the most important factor for decision of buying isot pepper. Aflatoxin is a prominent problem of pepper that is not faced with such a problem of isot pepper in production at the proper conditions and care. WTP values for particular food certification attributes are statistically significantly associated with the ability to pay even among the middle and high income population in Lima [33]. That will help to branding of isot pepper, too. Based on the findings of a qualitative investigation, several resistance strategies involving food emerged: vegetarian choices; brand choices and avoidances [34].

Price was not dominant factor for buying; consumers may either buy or pay more, if they have more knowledge about safety and benefits of pepper. Color and purchasing trust have positive effect on payment behaviors. On a macro-theoretical level, theories of moral identity are used to describe the anxieties provoked by a popular failure of trust in mass marketing generally, and the significance of lifestyles in refurbishing this trust [35]. Education and income have direct relation on WTP but have reverse relations on consumption amounts. Lower income levels use more isot pepper. This study is the first of its type for GAP Region and Şanlıurfa. The results contain useful information to food consumption sector and policymakers for regional agricultural products.

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