WILLINGNESS TO BUY BRANDED LOCAL FOOD PRODUCTS OF THE CONSUMERS: THE CASE OF ISPIR SUGAR BEAN AS A LOCAL FOOD PRODUCT

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Abstract

The aim of the study was to analyze the willingness to buy the branded Ispir sugar bean as a local food product of the target consumers, and to determine which brand types to purchase according to its usage rates, and to identify the major segmentation variables related to the socioeconomic characteristics of the target consumers. In order to reach to these aims, the data obtained from a survey conducted with 205 households in Erzurum province by taking into consideration the relationships among the consumers' demographic, socioeconomic and individual characteristics along with Ispir sugar bean attributes on their purchase decision were used for the principle component analysis *(PCA)* and cluster analysis.

The results of the study showed that the cluster 1 (light users), cluster 2 (medium users) and cluster 3 (heavy users) were described by the factors related to the willingness to purchase the product with the private label being one type of the manufacturer brands by considering the social statute, the local brand food product with Ispir region of origin spurring the rural development based on the protection of the natural and generic sources, and the Ispir sugar bean with generic brand based on hedonic and sensorial quality attributes, respectively.

Key words: Ispir sugar bean, local product, principle component and cluster analyses, customer and society marketing orientations.

Circum Vitae (CV)



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I was born in 1972 in Erzurum and completed my primary, secondary and higher education in that place. I graduated from the Department of Agricultural Economics at Ataturk University in 1997, and then started the Master Program in the same year and to work as a research assistant the next year. I attended to the Master Courses about the Agro-food marketing between 1999 and 2000 years in Spain. I started the PhD program in 2002 by finishing the master thesis entitled "A research on the meat cost and marketing condition in cattle fattening farms of Erzurum province", and then received the degree of PhD in 2006 by completing the PhD dissertation about "Brand competition and consumer behaviour in dairy products: A case study of Erzurum province". I have studied on the marketing tactic and strategies and quantitative analyses of the agricultural product and production as an Assistant Professor Doctor since 2008. I can speak English and Spanish, and I am married.

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1. Introduction

While the consumers try to purchase the food products maximizing their individual total utilities according to the stimulus-response model of the buyer attitude and behavior including the marketing (marketing mix) and other stimuli factors such as the cultural, social, psychological and personal characteristics influencing strongly consumers purchases, they take into consideration not only the product attributes related to the core benefits of the food product including the product quality determined by *performance quality* (the ability of a food product to perform its functions) and *conformance quality* (freedom from defects and consistency in delivering a targeted level of performance), product features offered by the stripped-down (without any extras) or higher-level (with additional more extras) models, the product style (the appearance of a product) and design (more than skin deep) but also the actual products including the branding (a brand name and type), packaging, labeling and hedonic quality of the food product, and the augmented products covering after-sale services, delivery and credit, warranty, insurance, the protection of the natural and generic resources, and environment (Kotler and Armstrong, 2004). They could, then, maximize their total utilities by gaining the additional benefits for each level at the same product line.

In response to the consumer-oriented movements, the producers/marketers/manufacturers must also design the food products at the three different levels by providing more customer value at each level according to the consumers need and wants along with their purchase pattern. In the differentiation process, whereas the most basic level delivering the core benefit and addressing the question *what is the customer really purchasing?* is planned to define the core and problem-solving benefits that the consumers seek; the second and third levels are built to turn the core benefit into an actual and augment products, respectively by offering additional consumer service and benefits (Mucuk, 2010). In order to differentiate the food product at the first, second and final levels, the suppliers must focus on the decisions about the product attributes; the branding, packaging and labeling of those; after-sale services and the social welfare improvement through public healthy and environmental campaigns as the marketers' major positioning tools at each market segment, and thus they follow the product, marketing and societal marketing concepts for marketing management orientations.

In order to be able to create the overall process of building and maintaining profitable customer relationships by delivering superior customer values and satisfaction, the marketers need to position their brand clearly in target customers' minds. Perhaps the most distinctive skill of the professional marketers is their ability to create, maintain, protect and enhance the brands of their food products. A brand is a name, term, sign, symbol, design or a combination of these, which identifies the maker or seller of a product or service by making it differentiate from that of the competitors (Topcu, 2006; Kotler and Armstrong, 2004).

The consumers view a brand as the most important part of a food product, and thus branding can add value to a product and provides its recognition (Topcu, 2004). For example, most consumers would perceive a branded food product as a high-quality, expensive product. However, the same product without a brand name would likely be viewed as lower in quality, and thus branding has become so strong that today hardly anything goes unbranded. Branding helps the consumers in many ways to select a brand type and name allowing the buyers to give the information about the image and prestige of the supplier/marketers, the quality and attitudes of the food product, and making it possible to protect the consumers. Actually, brand names help the consumers identify the food products that might benefit them, and also tell the buyers something about product quality. The consumers who always buy the same brand know that they will get the same features, benefits, and quality each time they buy.

Branding also gives the sellers several advantages. The brand name becomes the basis on which a whole story can be built about the special quality of a food product. While the sellers' brand name and trademark provide legal protection for unique product features that otherwise might be copied

by competitors, it makes the marketers pose challenging decisions about the marketing tactics and strategies such as the integrated product mix and marketing communication, supply chain and customer lifetime value management based on the buying patterns of the consumer by helping they segment the target markets (Topcu and Uzundumlu, 2011).

With these advantages of branding, the marketers can position the brands at any of three levels. At the lowest level, they could position a brand on core benefit based on the food product attributes at any product line; however, the attributes are the least desirable level for the brand positioning being easily copied by competitors. The position could be filled by the generic brand (no-brand) being a type of branding created by a package indicating the attributes of a legally sanctioned food product, and making it conspicuous through the absence of a brand name (Topcu, 2009; Topcu and Isik, 2007; Topcu *et al.*, 2007).

A brand can be better positioned by associating its name with a desirable benefit, and the marketers can go beyond the brands' core benefit and talk about the resulting functional benefits under any brand name. The position being stronger than the first level can be met by individual brands covering the specific/local food products based on the local supply sources. The food products called with the name of a region or origin, being compatible with the agro-ecological structure of the region, having a relative advantage as compared with other agricultural products have also played an important role in rural/regional development models by making it possible to make effective use of natural resources and stimulating rural or regional development potential (Topcu, 2009a; Topcu *et al.*, 2010). They could be positioned under the names of the individual product brands taking into consideration their core and functional benefits, and thus the brands representing them could be named as the local branded food products.

The strongest brands go beyond the attribute and benefit positioning that they are positioned on the strong beliefs and values, and pack an emotional wallop on the consumer purchase attribute and behaviors. The marketers can, therefore, talk not just about the core and functional benefits in favor of the food product attributes, but about how these will make to the customers more attractive. These successful brands must engage the customers on a deeper level, touching a universal emotion. These brands launched and built, therefore, by the manufacturers could be positioned as a manufacturer's brand (or national, international and global brand) or they may sell to resellers (marketers/middlemen) who give it a private brand (store or distributor brands) (Topcu, 2012; Topcu and Uzundumlu, 2009).

When positioning a brand, the manufacturer/marketers should establish a mission for the brand and a vision of what it must be and do. Therefore, a brand is the promise of the company to deliver a specific set of features, benefits, services and experiences consistently to the consumers. It can be thought of as a contract to the customer regarding how the product or service will deliver value and satisfaction (Topcu *et al.*, 2008). Therefore, the manufacturer and marketers who want to maximize the firms' financial values/assets seek to facilitate satisfying exchange relationships with the target consumers, and to develop and maintain much better relations with stakeholders so that can reach the lifetime values of them at targeting market segments. On the other hand, the consumers who want to provide the benefits from the brands positioned at any level can have the willingness to buy the different brand types of the food products by comprising the relationship between their total benefits of that and the total costs of their purchase attitude and behaviors towards a food product based on the purchase patterns.

As a result, while the supplier/marketers who want to have the current customers' lifetime values and to attract the potential consumers try to position the brand types at the target markets to launch their own brands through the effective marketing tactics and strategies under the societal marketing orientation contributing to the improvement of the social welfare, providing the maximum firm value to the entrepreneurs, and maximizing the consumers' total utility by taking into consideration the interactions between the company's micro and macro environments; the consumers try to prefer the brand types maximizing their total utilities among the alternative ones

that meet their need and wants, core and functional benefits, beliefs and values; and thus they could provide more benefit from the augmented and actual products with the manufacturer or individual brands according to their purchase powers.

In order to reach to these aims, Ispir sugar bean[1] growing in only Ispir[2] rural area, known by region of origin, being compatible with the agro-ecological structure of the region, having a relative advantage compared with other agricultural products, contributing the rural life quality by providing opportunities on the rural economic diversification, and playing an important role in rural development models by making it possible to make effective use of natural resources, and stimulating rural development potential was selected as a case food product, and then the marketing tactic and strategies under society marketing orientation were used for the product. This study, therefore, was designed to analyze the willingness to buy the branded Ispir sugar bean as a local food product of the target consumers, and to determine which brand types to purchase according to its usage rates, and to identify the major segmentation variables related to the socioeconomic characteristics of the target consumers by using the principle component and cluster analyses along with descriptive with cross-tabulation and ANOVA statistics.

2. Material and Methods

2.1. Material and determination of sample size

The data of the present research were obtained from a survey conducted in Erzurum, Turkey. In order to determine the sample size, while minimizing sample bias and representing the population correctly; the city centre was divided into three sub-districts: the east and south-sides Yakutiye with 44075, the west-side Aziziye with 11500, and the north-side Palandoken with 30022 households (Anonymous, 2010). To determine the sample size, following formula was used (Topcu, 2009b):

$$n = \frac{Z^2 * p * (1 - p)}{c^2} = 205$$

Where;
n = Sample size
Z = Z value, (used 1.96 for 95% confidence level)
p = percentage picking a choice, (0.84 used for sample size needed)
c = confidence interval, (used 0.05 = ±5)

Then, based on the population of each sub-district, weighted sample size and distribution of the surveys for each district were determined proportionally. Out of 205, the number of questionnaires of Yakutiye, Palandoken and Aziziye sub-districts were 105, 72 and 28, respectively.

Using the information obtained from food science and marketing literatures and prior experiences of the researchers, a draft questionnaire was prepared. Then, in order to control non-sampling error which stems from ambiguous definitions, poor instructions, questionnaire wording, format and length, pre-test was done on randomly selected 10 (7 and 3) consumers at the target regions. The flow and naturalness of the questionnaire were tested, and the order and timing of the questions were re-arranged. The questionnaire was modified before starting the fieldwork.

In order to select consumer households in each district for this final questionnaire, simple random sampling method (i.e., each member of the population has an equal chance of being chosen) was used. For this end, each district was divided into sub-districts. Then, face to face survey method was done with randomly selected heads of households (this could be either wife or husband) in

[1]The species being one of the most popular dry bean ecotype is usually called as “Ispir Seker Fasulyesi” in both the research area and Turkey.
[2]Ispir district of Erzurum province located in Northeast part of Turkey is a microclimate small town along Coruh valley with an altitude of 1250 m of sea level.

various parts of the sub-districts in order to represent the population adequately. The survey was conducted either at their residence or at shopping centers.

2.2. Questionnaire and data used for the targeting market segments

Participants in the survey were asked to respond to each statement, indicating the significance level of the food attributes for them using a Likert-format 1-5 scale (where 1 refers to the least important, and 5 refers to the most important attributes). Of the 41 factors affecting the consumers attitude and behaviors willing to purchase the branded Ispir sugar bean, the six are related to the sensorial attributes (taste and flavor, texture and aroma, hardness and relish, quality standard, quality stability and color and appearance after cooking of the product); the seven are stated by the physical and chemical properties (freshness/newness, caliber size, longer shelf life, thinness of bean-crust, shorter cooking period, organic product, being more resistant against to diseases and pests); the ten are covered by the extrinsic food attribute referring the marketing mix (Ispir region of origin, cost to satisfy, price-quality relation, local brand, willingness to be private label and manufacturer branded product, advertisement, package design and attraction, convenience to buy the product and promotion); the five are determined by consumer-related factors covering personal and psychological attitudes (on the special invitation and days, the popularity of the product, the protection of the generic sources, confidence to the product, compliance with other dishes); the four are explained by the social environment (the effects of customs, previous experience related to the product, the effects of the reference group and social environments and the effect of social statute); the three are determined by trust to the *SFSC* (more hygienic production and marketing, trust to the manufacturer and retailer) and the six are represented by the factors spurring the rural development (to provide the effective usage of the rural scarce sources, to contribute to the supply stability, employment opportunities and economy of the rural region, to decrease the rural migration from rural to urban area, representing the rural area).

Each question was reduced to a single statement to which responses were collected using the Likert scale described above. We also gathered demographic and socioeconomic information (gender, age and occupation groups, education, total and food expenditures and the income levels of the consumers) in the survey. Age, monthly total and food expenditures and incomes of the consumers were calculated at three different levels.

2.3. Statistical methods used for the targeting market segments

After editing and coding the data, we first analyzed them by the principal component analysis *(PCA)* to determine the main factors affecting the consumers attitude and behaviors related to the willingness to buy the branded Ispir sugar bean, and then by cluster analysis to form the homogeny food market segments of the target consumer mass by taking into consideration the results of the *PCA*, and finally by descriptive analysis using the cross-tables to identify the food market segments of the homogeny food consumer based on their demographic and socioeconomic characteristics. SPSS statistical software was used to perform these analyses.

PCA is a data reduction technique that reduces the number of variables used in an analysis by creating new variables (called factors) that combine redundancy in the data (SPSS 15.0, 2006). The first step in a *PCA* is to determine the number of relevant factors. Therefore, the *PCA* conducted for this study reduced the number of food attributes from the forty-one to the five factors having Eigen-values greater than 1.0, determined by principal component analysis[3] using varimax rotation method[4]. The *PCA* was employed initially to identify underlying dimensions that

[3]A factor extraction method used to form uncorrelated linear combinations of the observed variables. The first component has maximum variance. Successive component explain progressively smaller portions of the variance and are all uncorrelated with each other. Principal component analysis is used to obtain the initial factor solution. It can be used when a correlation matrix is singular.

[4]This method is an orthogonal rotation method that minimizes the number of variables that have high loading on each factor. It is simplifies the interpretation of the factors.

may explain the correlation among a set of food attributes and the associated consumption values. The affiliated purpose of the *PCA* in this study was to identify from all the attributes those that accounted for a relatively large proportion of the variance of the sample. This subset could then be used for consumer segmentation.

The second step of the analysis involved using k-means cluster analysis. Clustering algorithms can be classified into two categories: hierarchical and non-hierarchical. Hierarchical clustering algorithms start with *n* clusters, equal to the number of observations, and proceed until all observations are in one cluster. In non-hierarchical clustering, the researcher specifies the number of clusters in the data set *a priori.* Since in this study nigh consumption/preference value categories were identified, the number of classes could be specified, thus non-hierarchical k-means clustering was used. The k-means procedure selects "m" random points from the data set. These are used as cluster seeds and all other points are assigned to the nearest cluster seed. Successive iterations involve replacing the current cluster seed by the cluster mean, and then reassigning all points to the nearest new cluster seed. The process continues until there is no change in cluster means from the previous iteration or the difference is very small. Hence, the clusters of consumers were generated on the basis of relative homogeneity of their attitudes towards food attributes based on consumers' food expenditure and income levels. The pattern of consumption values associated with these attributes could be identified through examining the outcome of the segments.

The final step was to use cross-tabulation to examine the distribution of the clusters deal with the three food expenditure and income levels, and demographic and socioeconomic attitudes. In order to measure if the relation among personal characteristics and their positions is or not, it was used chi-square test of independence. If the p-value is not less than 0.05, the null hypothesis is accepted. This means that demographic characteristics and their position levels are statistically independent (Topcu, 2012).

3. Results and Discussion

3.1. Results of the *PCA* for the targeting market segments

Market segmentation being one of the consumer-oriented marketing tactics and related to the willingness to buy in the purchasing models of the target consumers for the branded Ispir sugar bean attributes including the product, consumer and marketing environment-related factors separated the target food market into some consumers segments according to the main factors derived from the *PCA* being the first step of the market segmentation based on the main factors.

Kaiser Normalization *(KMO)* which compares partial correlation coefficients with observed ones, therefore, was calculated as 0.92 for the willingness to buy the branded Ispir sugar bean attributes, and this meant that the data set for the *PCA* was at a perfect level since the test score was greater than 0.50 (Table 1). The *PCA* using varimax rotation method grouped the forty-one variables related to the bean attributes into the eight factors with Eigen-values greater than 1.0, which these factors explained the 65.72% of the total variance.

The first of these factors, *F1* clarified the 37.35% of the total variance, and consisted of the factors related to the sensorial quality attributes of the Ispir sugar bean, covering the taste and flavor, texture and aroma, hardness and relish, product quality, thinness of the bean-crust, the shorter cooking period. It, therefore, could be determined by the sensorial quality attributes of the Ispir sugar bean. Being the second of those and explaining the 6.41% of that, *F2* gave us some important information about the protection necessity of the generic and rural natural sources focused on the variables such as the quality stability, the resistant against to diseases and pests, protection of the generic sources, confidence to the product, organic product, freshness/newness, hygienic production and marketing and longer shelf life, and thus it could be called as the protection of the generic and rural natural sources of the Ispir sugar bean.

Table 1. Factors and correlated variable loadings about the willingness to buy Ispir sugar bean attributes.

Variables	Factor loadings*							
	F1	**F2**	**F3**	**F4**	**F5**	**F6**	**F7**	**F8**
Sensorial quality attributes (F1)								
Taste and flavor	**0.837**	0.093	0.077	0.036	0.057	0.142	0.169	-0.072
Texture and aroma	**0.777**	0.000	0.198	0.123	0.124	0.127	0.118	0.221
Hardness and relish	**0.732**	0.261	0.207	0.116	0.214	0.073	0.092	-0.074
Product quality	**0.577**	0.118	0.114	0.151	0.297	0.289	0.283	-0.145
Thinness of the bean-crust	**0.478**	0.191	0.138	0.084	0.161	0.157	0.147	0.085
The shorter cooking period	**0.421**	0.128	0.188	0.198	0.276	-0.064	0.103	0.163
Protection of the generic and rural natural sources (F2)								
Quality stability	-0.145	**0.769**	0.131	-0.028	0.061	0.037	-0.009	-0.054
Resistant against to diseases and pests	0.205	**0.659**	0.205	0.106	0.157	0.247	0.082	0.167
Protection of the generic sources	0.159	**0.569**	0.248	0.105	0.120	0.440	0.016	0.172
Confidence to the product	0.372	**0.563**	0.154	0.283	0.161	-0.004	0.156	0.058
Organic product	0.439	**0.547**	0.182	0.139	0.174	0.140	0.027	-0.014
Freshness/newness	0.471	**0.498**	0.107	0.010	0.425	0.139	0.149	0.004
Hygienic production and marketing	0.423	**0.451**	0.228	0.219	0.197	-0.087	0.380	-0.047
Longer shelf life	0.287	**0.438**	0.388	0.113	0.324	-0.083	0.270	-0.025
The rural development focused on the local product (F3)								
Contribution to employment opportunity	0.162	0.203	**0.838**	0.159	0.134	-0.023	0.059	0.084
Protection the supply stability	0.184	0.201	**0.817**	0.139	0.170	0.091	0.097	0.025
The effective use of the scarce sources	0.137	0.184	**0.720**	0.151	0.222	0.366	0.096	-0.007
The rural migration decrease	0.081	0.236	**0.673**	0.122	0.064	0.377	0.104	0.092
Contribution to region economy focused on the local products	0.264	0.346	**0.450**	0.134	0.331	-0.169	0.209	0.031
Willingness to buy the product with *MB* and *PL* (national brand) (F4)								
Willingness to buy a *MB* product	0.090	0.030	0.189	**0.709**	0.438	-0.061	-0.008	0.014
Advertisement	0.010	0.125	-0.027	**0.662**	0.122	0.158	0.240	0.294
Willingness to buy a *PL* product	0.039	-0.074	0.157	**0.655**	0.499	0.023	0.022	0.120
Promotion	0.226	0.250	0.132	**0.648**	-0.143	0.030	0.319	0.112
Convenience to the product	0.187	0.323	0.183	**0.584**	0.167	0.143	0.062	-0.037
Trust to producer/manufacturer	0.321	0.221	0.373	**0.540**	0.201	-0.072	0.255	0.124
Trust to the retailers	0.317	0.441	0.075	**0.525**	-0.025	0.118	0.161	-0.025
Willingness to buy the product with the *LB* including Ispir region of origin (F5)								
Willingness to buy a *LB* product	0.096	0.262	0.162	0.103	**0.693**	0.176	0.104	-0.016
Representing the rural area	0.190	0.154	0.200	0.169	**0.637**	0.294	0.175	-0.066
Registration with Ispir region of origin	0.307	0.114	0.155	0.187	**0.613**	0.158	-0.059	0.051
The appearance and color after cooking	0.451	0.288	0.009	0.123	**0.531**	0.140	-0.010	0.007
Compliance with other local dishes	0.336	0.047	0.165	0.288	**0.431**	0.208	0.012	0.249
Social statute (F6)								
The effect of the customs	0.148	0.237	0.042	0.083	0.279	**0.619**	0.226	0.236
Prior experiences related to the product	0.340	0.154	0.180	0.148	0.240	**0.573**	-0.055	-0.077
The effect of the social classes	0.108	-0.009	0.339	0.430	0.181	**0.570**	0.145	0.062
The effect of social/reference groups	0.108	-0.009	0.339	0.570	0.181	**0.530**	0.145	0.062
Hedonic quality (F7)								
The cost to satisfy	0.209	0.041	0.137	0.298	0.024	0.055	**0.776**	0.032
Price and quality relation	0.019	0.396	0.026	0.211	0.213	0.128	**0.735**	0.169
Willingness to buy the local product with *GB* (F8)								
The appearance and design of package	-0.051	0.104	0.050	0.157	-0.055	0.064	0.033	**0.822**
The caliber size of the product	0.162	0.252	0.295	0.226	0.098	0.027	0.278	**0.470**
The popularity of the product	0.378	0.022	0.133	0.269	0.421	0.029	0.067	**0.426**
Eigen-value	***15.312***	***2.627***	***2.125***	***1.807***	***1.512***	***1.404***	***1.104***	***1.054***
Share of explained variance (%)	***37.346***	***6.407***	***5.182***	***4.407***	***3.688***	***3.425***	***2.693***	***2.570***
Cumulative ratio of explained variance (%)	***37.346***	***43.753***	***48.936***	***53.343***	***57.031***	***60.456***	***63.149***	***65.719***
KMO (Kaiser-Meyer-Olkin) Statistic								***0.923***
Bartlett's test of Sphericity						***(Chi-square, df: 820: 5221.50***		***(p: 0.000)***

*Bold numbers indicate the largest loading for each variable.

Reporting the 5.18% of that, *F3* resulted from the variables affecting the rural development oriented to the local products triggering the rural potential by making possible the effective use of

the local production factors (i.e. contribution to employment opportunity, protection the supply stability, the effective use of the rural scarce sources, the rural migration decrease, contribution to the rural region focused on the local products e). As a result of those, the factor could be determined by the rural development oriented the local product.

Characterized by the 4.41% of that, *F4* gathered together the variables related to the willingness to buy the product with manufacturer brand *(MB)* and private label *(PL)* including the willingness to buy a *MB* and *PL* products (national/international/global brands), advertisement, promotion, convenience to the product and trust to manufacturer and retailer registration. It, therefore, could be named as the willingness to buy the product with *MB* and *PL*. Referring to the 3.69% of that, *F5* could be represented by the willingness to buy the local brand *(LB)* with Ispir region of origin establishing a link among the factors covering the willingness to buy a *LB* product registered with Ispir region of origin, representing the rural area, the appearance and color after cooking and compliance with other local dishes. Taking into consideration the 3.43% of that, *F6* became from a combination of the relative relationships among the effects of the social environment and class, the reference groups, and the customs on the consumers purchase attitude and behaviors and the prior experiences related to the product, and thus it could be termed by social statute of the target consumers.

Accounting for the 2.69% of that, *F7* indicated a correlation between the cost to satisfy and price and quality relation for the Ispir sugar bean, therefore, it could be styled by the hedonic quality. Finally, implicating 2.57% of that, *F8* associated with the package appearance, design and attraction, the caliber size and popularity of the product, and thus it could be dominated by willingness to buy the local product with generic brand *(GB)*.

3.2. Results of the cluster analysis for the targeting market segments

The cluster analysis being the second step of the market segmentation considering the main factors obtained from the *PCA* separated the target food market into the homogenous consumer market segmentations, and then the consumers' needs and want were determined homogonously at each the food market segment. This had a very big important for the dynamic actors of the food markets. Because, the marketers could implement the marketing tactics and strategies taking into consideration the wants and needs of the target homogenous consumer segments and based on Ispir sugar bean attributes into target homogenous market segments.

Table 2. Final cluster centres and the number of cases in each cluster

Factor interpretation	**Clusters[5*]**		
	C1	**C2**	**C3**
Sensorial quality attributes (F1)	-0.657	-1.022	**0.549**
Protection of the generic and rural natural sources (F2)	0.439	**0.774**	-0.368
The rural development based on local product (F3)	0.138	**0.369**	-0.116
Willingness to buy the product with MB and PL (F4)	**0.300**	-0.431	-0.241
Willingness to buy the product with *LB* including Ispir region of origin (F5)	-0.128	**2.163**	0.124
Social statute (F6)	**0.210**	-0.159	0.129
Hedonic quality (F7)	-0.057	-0.187	**0. 408**
Willingness to buy the local product with *GB* (F8)	-0.168	0.039	**11.122**
Number of cases in each cluster	***90***	***15***	***100***
% of total cases in each cluster	***%44***	***%7***	***%49***

*Final cluster centre scores are very important in 0.01 significant levels according to F statistic.

*Bold numbers indicate the largest final cluster centre scores for each factor. The total number of cases (n): 205

[5]The numbers in this table indicate final cluster centres which displays for each case the final cluster assignment and Euclidian distance between the case and cluster centre used to classify the case.

Three clusters had the group means that could be explained reasonably. The final cluster centers and the number of cases in each cluster were shown (Table 2). The total number of cases was 205. Cluster 3 *(C3)* was the largest group with 100 (49%) consumers. Consumers in this group cared more sensorial quality attributes *(F1),* hedonic quality *(F7)* and the willingness to buy the local product with *GB (F8)*.

Cluster 2 *(C2)* was the smallest group, made up of 15 (7%) consumers. The participants of the cluster were much more sensitive to the factors such as the protection of the generic and rural natural sources *(F2),* the rural development based on local product *(F3)* and the willingness to buy the *LB* with Ispir region of origin *(F5).* As for Cluster 1 *(C1)* being the second largest consumer segment, there were 90 (44%) consumers in this group, and the willingness to buy the product with *MB* and *PL (F4)* and the social statute *(F7)* were the most important factor in their preference decisions.

3.3. Results related to some characteristics of the consumers at the targeting market segments

Cross-tabulation giving some fundamental information about the relationships between three food market segments of the consumers and their demographic and socioeconomic characteristics makes the supplier/marketers or the manufacturer/producers to orient into the relevant food market segments, and the distribution of the participants' demographic and socioeconomic characteristics among their homogenous segments were shown in Table 3. These characteristics of the target consumers included gender, age, education, and occupation, the usage frequency of the product, monthly food expenditure and income.

The results of the target market segmentation showed that there were more male consumers than female ones among all the consumer groups. On the other hand; *C1*, *C2* and *C3* market segments of the target consumers dominated the highest male/female ratios with 86%, 67% and 74%, respectively. The results of the distribution of the consumers based on their age groups indicated that *C1*, *C2* and *C3* within the groups had the highest portions with 54%, 47% and 49% for the middle-age group (36-55 age group), respectively. As for the education levels of consumers, the lowest ratio in all the clusters was made up of literate (i.e., those who can read and write but do not have a diploma) people. The consumers with a college degree dominated *C2* (60%) and *C3* (40%), while first school graduates dominated in *C1* (36%). The results of the occupational distribution among the clusters stated that while white-collar state employee had the highest ratios in all the groups, the housewife and students had the lowest ones. Especially, *C1*, *C3* and *C2* within the clusters were embodied the white-collar state employee with 37%, 53% and 34%, respectively.

As considered the frequency of use of Ispir sugar bean, *C1, C2* and *C3* within the groups were considerably represented by light (with 52%), medium (with 60%) and heavy (with 56%) users. As for the family size in the target groups, all of those had family size between 4 and 6 individuals, and thus they could be called medium-size nuclear family. As accounted the food expenditures and income of the households, the results showed that while monthly food expenditure were commonly between €135 and €305 in all the clusters, monthly income levels of the respondents were generally between €370 and €870 (middle-income household) in all the groups.

3.4. Determining the characteristics of the targeting market segments

Based on the final cluster centers of the factors and demographic characteristics of the consumers in each cluster, the cluster profiles were determined. The main demographic characteristics of *C1* depicted the white-collar state employee consisting of the mature-aged consumers (36-55 age group) with middle-income and first education graduate. The group, moreover, composed of middle-size families with between 4 and 6 individuals and the light users of Ispir sugar bean, and thus the cluster could be called as "light users". The most important factors in this cluster, on the

other hand, were the willingness to buy the product with *MB* and *PL* and the social statute, and thus the consumers gave a bigger importance to the willingness to purchase the product with national branded by considering the social statute.

Table 3. Demographic characteristics and cluster number of cross-tabulation cases.

Demographic characteristics		**Number of cases in each cluster**					
		C1		***C2***		***C3***	
		Light users		**Medium users**		**Heavy users**	
		Number	**%**	**Number**	**%**	**Number**	**%**
Gender	Male	77	**37.5**	10	**5**	74	**35.5**
	Female	*13*	*6*	*5*	*2.5*	*26*	*12.5*
	χ^2 ***test of independence***	***(χ^2=5.105 df = 2, p: 0.078)****					
Age Groups	24-35 age	19	9	5	2.5	25	12
	36-55 age	*49*	***24***	*7*	***3.5***	*49*	***24***
	56-80 age	22	11	3	1.5	26	12.5
	χ^2 ***test of independence***	***(χ^2 = 1.442, df = 4, p: 0.837)****					
Education	Literate	4	2	2	1	3	1.5
	First school	*32*	***15.5***	*3*	*1.5*	*22*	*11*
	High school	26	12.5	1	0.5	35	17
	College	*28*	*13.5*	*9*	***4.5***	*40*	***19.5***
	χ^2 ***test of independence***	***(χ^2 = 15.284, df= 8, p: 0.060)****					
Occupation	White-collar state employee	33	**16**	8	**4**	34	**17**
	Blue-collar state worker	*11*	*5.5*	*1*	*0.5*	*21*	*10*
	Small-scale retailer	27	13	4	2	20	9.5
	Pensioner	*19*	*9.5*	*2*	*1*	*22*	*10.5*
	Housewife	0	0	0	0	1	0.5
	Student	*0*	*0*	*0*	*0*	*2*	*1*
	χ^2 ***test of independence***	***(χ^2 = 26.788, df = 20, p: 0.141)****					
Usage frequency	Light users	47	**23**	1	0.5	19	9
	Medium users	*21*	*10*	*9*	***5***	*25*	*12*
	Heavy users	22	10.5	5	2.5	56	**27.5**
	χ^2 ***test of independence***	***(χ^2 = 2.921, df = 4, p: 0.571)****					
The family size	Less than 4 individuals	27	13	5	2.5	32	15.5
	Between 4 and 6 individuals	*44*	***21.5***	*8*	***4***	*50*	***24***
	More than 6 individuals	19	9.5	2	1	18	8.5
	χ^2 ***test of independence***	***(χ^2 = 0.654, df = 4, p: 0.957)****					
Food Expenditure	Less than €135**	15	7	1	0.5	14	7
	Between €135 and €305	*58*	***28***	*13*	***6***	*68*	***33.5***
	More than €305	17	8	1	0.5	18	8.5
	χ^2 ***test of independence***	***(χ^2 = 2.985, df = 4, p: 0.560)****					
Income Groups	Less than €370**	12	*6*	1	0.5	17	8
	Between €370 and €870	*62*	***30***	*12*	***6***	*68*	***33.5***
	More than €870	16	*8*	2	1	15	7
	χ^2 ***test of independence***	***(χ^2 = 2.921, df = 4, p: 0.571)****					

**The prices of the products were converted from Turkish Lira (TL) to Euro (€) using the exchange rate on November 10, 2011. The conversion rate used was 2.4 TL

* p>0.05

The dominant demographic characteristics in *C2* determined the mature-aged consumers occupied the white-collar state employee with a middle-income level and collage graduate, consisting of middle-size family and its medium users, and thus *C2* could be determined "medium users". The most important main factors in *C2* were the protection of the generic and rural natural sources, the rural development based on local product and the willingness to buy the product with the *LB* including Ispir region of origin. The consumers with high education and income gave a major importance to the willingness to buy the *LB* with Ispir region of origin triggering the rural

development based on the protection of the natural and generic sources, and could create a sting demand to buy these food products by combining their purchase power along with their wants and needs.

Finally, the main characteristics of the respondents in *C3* were mostly described by the white-collar state employee covering the mature-aged consumers with middle-income, collage graduate, middle-size family and its heavy users. This group was called "heavy users", and sensorial quality attributes, hedonic quality and the willingness to buy the local product with *GB* were the most influential factors on the purchase decisions or the wants and needs of the respondents in *C3*. This means that the highest significance to satisfy the consumers was ascribed to the willingness to purchase the Ispir sugar bean with *GB* based on hedonic and sensorial quality attributes.

4. Conclusion

The aim of the study was to analyze the willingness to buy the branded Ispir sugar bean as a local food product of the target consumers, and to determine which brand types to purchase according to its usage rates, and to identify the major segmentation variables related to the socioeconomic characteristics of the target consumers by using the *PCA* and cluster analyses along with descriptive with cross-tabulation and ANOVA statistics.

The results of the study showed that the light users considering the social status had the willingness to buy the Ispir sugar bean with manufacturer brands such as the national, international, global brands and private label (store brands); the medium users thought of the willingness to buy the product with the *LB* including Ispir region of origin by believing to be spurred the rural development of the local food products making it possible the effective usage of the local scarce production factors by stimulating the rural potential; the heavy users also advocated the willingness to buy the product with the *GB* providing the core benefit or the performance and conformance qualities of the product.

On the other hand, the manufacturers and marketers could design the actual product with the private label as a type of the manufacturer brands by using the advantages of the integrated channel chain and consumer relationship management to meet the need and wants of the light users; develop the augmented product with the local brand as a type of the individual brands focused on the medium users taking into consideration the society marketing orientation; and introduce to the target market segment a core product without a brand to be able to utility for the its core benefit of the heavy users.

The producers and marketers determining not only the consumers' need and wants related to Ispir sugar bean through the food market segmentation but also their purchase models through the target market segments by analyzing their purchase powers and their attitude and behaviors according to their socioeconomic and demographic characteristics could rearrange the farming and marketing systems. In order to respond to the willingness to buy the branded local products of the target homogenous market segments, they could effectively produce new food product, and introduce the redesigned food products into the target market segments, and thus they could reach to the position of the target food market. By doing so, the active dynamics at the food market could use effectively the rural scarce sources responded to the purchase models of the target consumers, increased the diversification of the rural economy, protecting the generic and natural sources and stimulating the rural potential, tend the rural tourism to the rural areas, and thus they could accelerate the rural development by improving the quality of the rural life and contributing the rural economy. Consequently, the consumer/market and society marketing orientation providing a string positive interaction among the producer, marketer, consumer, community and government officials could improve the quality of life in the rural area, and strengthen the economic and social ties between the farms and urban residents with the increasing diversification of the rural economy.

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