

## EFFECTS OF CONSUMER CONFUSION ABOUT THE CONCEPTS OF QUALITY AND FOOD SAFETY ON THE WILLINGNESS TO PAY FOR FOOD SAFETY

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### Abstract

The purpose of this paper is to determine whether the dairy consumers in Kosovo make a clear difference between safety and quality attributes, which is the impact of socio-demographic factors, and if the recognition of these attributes has an impact on willingness to pay (WTP) price premium for food safety standards.

The observation was conducted with 303 consumers of Viva Fresh Store supermarkets. The results show that 90% of the respondents mix the safety concept with the one of quality. Factors like: education level, incomes and the place of residence have a significant correlation ( $p < 0.05$ ) with the variable of concepts clarity. Testit Chi Square shows that WTP variations are not dependent in terms of clarity between two concepts ( $p > 0.05$ ). The most number of consumers (74,8%) are WTP for premium price on food safety standards. The assessment on food safety, at a certain degree is "high" or "very high" (48.83%).

**Keywords:** Food safety, willingness to pay, quality attributes, socio-demographic factors, chi square

**Topic Groups:** Marketing and consumer behavior, Social sciences and business.

### INTRODUCTION

Food safety concern is increasing every day, and not in developed and developing countries only. Various researches found that there is confusion among consumers in regard to the perception on food safety, which still remains unclear because of the misinterpretation and interference of quality concept (Jabbar et al., 2010). This confusion makes consumers consider food safety highly important even though they use the same attributes in defining the quality and food safety (Kealesitse & Kabama, 2012).

Depending on the ability of consumers in defining the attributes of the products, Nelson (1970) and Darby & Karni (1973) divide attributes in search, experience and credence. In the explanation they make of this division Caswel & Mojduszka (1996) and Brunsø, Fjord, & Grunert (2002), note that for search attributes consumers can ascertain the quality of the product before buying it, through examination and research, such as the size of an egg or the meat colour. The attributes of experience the consumers can ascertain only after the use of the product, such as the egg or meat taste. In regard to credence attribute the consumer can not ascertain the presence neither before nor after buying or consuming it.

Brunso et al. (2002), through Total Food Quality Model units these three attribute categories (search, experience and credence) in two quality cues: intrinsic and extrinsic. The first group covers physical attributes of the product which are linked to technical specifications and which also include its physiologic attributes, i.e. the attributes that can be measured in an objective way. The second group (extrinsic cues) represent all other product's attributes, such as brand name, price, distribution method, storage, packaging, etc. (Brunso et al., 2002).

But the confusion over quality and food safety concepts is more evident in developing countries than in developed ones, because unlike at the latter, in developing countries consumers are less exposed to information and therefore have less knowledge of the hazards and risks in food choice (Zhllima et al., 2015).

When adding these findings to the fact that Kosovo is a new country and at an early stage of consolidating state institutions which have no capacity and desired expertise, and the fact that political topics dominate the public debate and there is so little in media about food safety then, the current state does not promises to be more satisfactory.

However, even in Kosovo there is a certain degree of concern in regard to food safety (Canavari et al, 2014). Based on this study 2/3 of interviewed consumers assert to be quite concerned about food safety.

As noted above, there is a need to understand whether there is a confusion in regard to quality and food safety attributes among consumers in Kosovo. According to the authors, such studies are not conducted with any group of costumers in Kosovo.

Therefore the problem of the search can be formulated as: the need to know whether there is confusion among dairy consumers in Kosovo about quality and food safety concepts and whether there is an impact of these variables on the willingness of consumers to pay premium price for products certified with safety standards.

The findings of this research will be of great interest to the dairy industry in Kosovo but for policy makers and civil society also, to take into account whether there is need to take concrete steps in increasing awareness among consumers about food safety.

## **METHODS AND PROCEDURES**

In order to achieve research objectives the methodological approach is based on post-positivist paradigm, which is based on the quantitative measurement methods of objective reality. Descriptive statistics methods will be used, Chi Square test ( $\chi^2$ ) and correlation analysis.

### **Data**

The data were obtained through observation. A questionnaire was drafted and used to collect data for their testing. The observation was conducted through interviews with customers of Viva Fresh Store markets network.

The survey was conducted within supermarkets premises, at the dairy sector, because: (i) the customer was interviewed immediately after the buying the product; (ii) during the survey the customer had also present other products which helps in providing more accurate answer about his decision by taking into account the alternatives.

In the observation conducted between 1 April - 5 May 2015 were involved 303 consumers over 18 years of age. The selection of costumers was random. In capital Pristina, as a representative of the group of cities with over 100 thousand inhabitants, 153 surveys were conducted; in Gjilan, from the group of towns with 50-100 thousand inhabitants 110 surveys were carried, and in Vitia (which has less than 50 thousand inhabitants) 40 surveys were conducted.

For concrete objectives of the paper, especially if consumers are able to distinct attributes or concepts of quality and food safety, an indirect question was asked, where besides the statement: "When I say food safety I mean:" were put explanations on quality and safety attributes. Therefore, dammy variable was created to understand whether the consumer has clear concepts or not.

## **RESULTS AND INTERPRETATION**

In this first session is initially presented the assessment that consumers have on dairy products' safety. Descriptive statistics on how much the consumers make a clear distinction between the concept of food quality and safety as well as the influence of socio demographic factors on the clarity of concepts is presented afterwards. Finally the results of Chi Square test on the relation between clarity concepts and WTP will be presented.

### **Descriptive statistics**

Table 1 presents descriptive statistics in terms of consumers' perception of food safety and where this perception is based. For this purpose, the question was submitted by Likert scale. Those that valued it with 4 (high) and 5 (very high) were asked for the reasons of the assessment.

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**Table 1: Consumers' perception on food safety and the reasons - descriptive statistics**

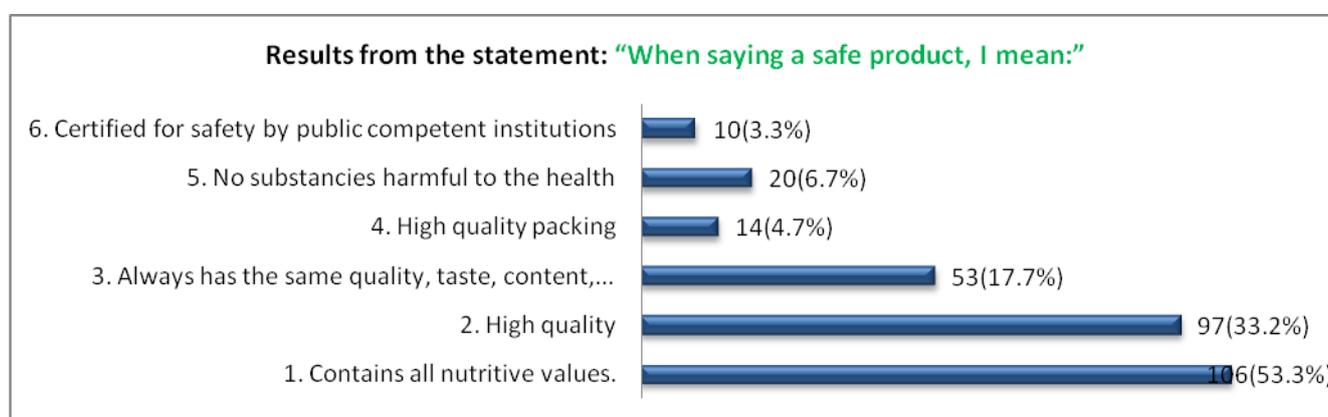
Food safety is “high” and “too high”, because:	Milk			Cheese			Yogurt			*Arithmetic average in %
	Fr	%	% in total	Fr	%	% in total	Fr	%	% in total	
1. Consuming this product for a long time	101	65,6	33,3	106	69,3	35,0	93	67,9	30,7	67,6
2. Trust in manufacturer	10	6,5	3,3	8	5,2	2,6	9	6,6	3,0	6,1
3. Believing that the state does not allow unsafe products	1	,6	0,3	3	2,0	1,0	4	2,9	1,3	1,8
Alternatives :1 and 2	27	17,5	8,9	24	15,7	7,9	19	13,9	6,3	15,7
Alternatives: 1 and 3	3	1,9	1,0	3	2,0	1,0	2	1,5	0,7	1,8
Alternatives: 2 and 3	1	,6	0,3	1	0,7	0,3	1	0,7	0,3	0,7
Alternatives: 1, 2 and 3	11	7,1	3,6	8	5,2	2,6	9	6,6	3,0	6,3
Total	154	100	50,8	153	100	50,5	137	100	45,2	(50,8+50,5+45,2) 48,83
The assessment for “average”, “low” and “too low” safety	149		49,2	150		49,5	166		54,8	51,17
TOTAL	303		100	303		100	303		100	100

\*Results in lines 2-8 are the average from the columns:” %”; while in lines 9 -10 for columns: “% in total”. Source: Field survey - SPSS processing

Results shows that about 48.83% of consumers assess that dairy products have a high or too high safety degree, while the rest assessed that safety is average, low or very low. From the group of consumers who had a high assessment on the safety, the reason for their assessment is that they were consuming the product for a long time (67.6%), some have trust on manufacturer (6.1%) and a symbolic group (1.8%) has trust on the state. Even to those who have chosen more alternatives the first option generally dominates.

Descriptive statistics about the explanatory variable, is presented in Figure 1 in which only options 5 and 6 represent attributes of the food safety concept. It shows that only for 10% (n=30) of customers is what the concept of food security presents.

**Figure 1:** An assessment whether there is a clarity on food safety concept



Burimi: Field survey

Results from table 3 show how much correlation exists in the variable between quality and safety concept with socio-demographic factors such as: residence, education and income levels. These variables were used to apply logistic regression model but it did not produce reliable results because of multicollinearity effect from strong correlations between independent variables (for more see Table 2).

**Table 2:** The correlation matrix

	Is it the food safety concept clear?	Gender	Residence	Age	Education level
Gender	-,072				
Residence	,131*	-,112			
Age	-,104	,285**	-,130*		
Education level	,143*	-,043	,320**	-,091	
Family monthly average income	,135*	-,062	,284**	-,034	,496**

\*Correlation is significant at the 0.05 level (2-tailed); \*\*Correlation is significant at the 0.01 level (2-tailed). Source: Field survey-SPSS processing

As presented above, we are forced to explain the relation between variables only through correlation index. Based on table 2 data it appears that:

- For safety level 0.05, consumers living in a city have higher chances to better understand the difference between two concepts and vice versa;
- For safety level 0.05, consumers with higher education have higher chances to better understand the difference between two concepts and vice versa: and
- For safety level 0.05, consumers with higher income have higher chances to better understand the difference between two concepts and vice versa.

### Chi Square test

As presented on table 3, test results x2 show that there is no dependency between the clarity of displayed variable concepts of food quality and safety with WTP. The table shows that 226 or 74.8% of the consumers are ready to pay premium price for products if subject to certification with food safety standards, while 76 or 25.2% are not ready to.

**Table 3: Chi Square test**

		Is the food safety concept clear?		Total	
		No	Yes		
Are you WTP extra price for products with food safety attributes?	Jo	Count	69	7	76
		Expected Count	68,2	7,8	76,0
	Po	Count	202	24	226
		Expected Count	202,8	23,2	226,0
	Total	Count	271	31	302
		Expected Count	271,0	31,0	302,0
Pearson Chi-Square	Value	df	Asymp. Sig. (2-sided)		
	0,123	1	0,726		

Source: Field survey - SPSS processing

### CONCLUSIONS

Based on search results we can conclude that the consumers of Kosovo, generally (90% of respondents) are confused with quality and safety food concept. So even when these customers provide an assessment on food safety they use the same attributes in defining quality and food safety (Kealesitse & Kabama, 2012).

In the confusion between attributes or the concepts of food quality and safety, socio-economic factors have more significant impact than demographic ones. As presented in the correlation analysis, factors such as age, gender doesn't show any significant correlation connection, while the level of education, level of income and residence showed significant correlation ( $p < 0.05$  level). However, the

problems with multicollinearity did not allow logistic regression application to measure the level and direction of these factors' impact on the clarity of concepts. In this situation, the perception of food safety, to a considerable extent is considered high or very high (48.83%), and this is mainly as a result of the fact that a product is consumed for a long period of time, but a small part have trust on manufacturer and a symbolic part on the state.

Chi Square test results showed that variations in WTP are not dependent whether the consumer has or has not clarity on the difference between food quality and safety concept, while the most part of the consumers (74,8%) are WTP premium price if safety food attributes are added to the products.

The findings imply further research as the way confusion over the concept affects consumer behavior and their assessment of food safety attributes. On the other hand, findings have policy implications which requiring from the institutions that besides their policies on food safety increase to organize awareness campaigns with customers to clarify the differences between quality and safety standards, and the dangers of unsafe food; managerial implications consist in increasing food safety of products by applying food safety standard but also promotional campaigns for safety changes in their products; associations that deal with consumer protection in cooperation with professional institutions to organize customer awareness activities on food safety problems and relevant standards.

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