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# Attitudes and preferences of Kosovar consumers towards quality and origin of meat

Quality and safety are important attributes for consumers in developed and transitional countries such as Kosovo. This study aims to examine Kosovar consumers' characteristics, attitude and preferences towards meat as well as to provide meat consumer profiling using a descriptive analysis together with the Food-Related Lifestyle approach. We drew a sample of 300 Kosovar consumers by means of intercept sampling in Prishtina, Prizren and Gjilan. Results suggest that Kosovar consumers perceive country of origin (COO), especially domestic origin, as an indicator of quality and safety for meat. Two consumer profiles were identified through segmentation analysis: conservative and innovative food consumers. The innovative food consumer is the most interesting target segment for Kosovar meat. There is potentially a market for meat products bearing food safety and origin labels. Therefore, private operators could consider the use of safety certification labels to signal to consumers that their products are safer than common products. The paper concludes by discussing the implications of our findings for businesses and policy makers regarding domestic meat promotion strategies.

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## Introduction

In terms of Gross Domestic Product (GDP) and employment, agriculture is an important sector in Kosovo's economy. Its contribution to the annual GDP is 10.3% (KAS, 2015). Within the agriculture sector, livestock is the most important branch - it represents 44% of the total agricultural output (KAS, 2016). Livestock sales represent an important source of income for rural households. While meat is the most important livestock product, it is also one of the main food items - meat represents 19% of an average Kosovo household consumption basket (MAFRD, 2014). Meat consumption is in the range of 41 - 44 kg per capita per year (Bytyqi *et al.*, 2012; FAO, 2014). Beef and chicken meat are the most popular types of meat. In 2015, consumption of cattle meat was 18.4 kg, while that of chicken meat was 22.3 kg per capita per year (KAS, 2015; MAFRD 2016). The main beef processed products are traditional salami and prosciutto (ham). Although overall meat consumption in Kosovo is lower than the EU average, it is higher than that in other neighbouring countries. This is due to the consumption of beef and chicken, while pork consumption is insignificant, for religious and cultural reasons. As the level of income has been increasing, it is likely that meat consumption will also increase in the coming years (FAO, 2014).

Although there has been an increasing trend of livestock production in the last decade, Kosovo has not been self-sufficient in meat production and relies heavily on imports. Domestic production covers only 19% of the total annual demand. In 2015, the production of chicken meat was estimated at 2,621 tons, because the poultry sector is focused primarily towards production of eggs for consumption and chicks, while the production of chicken meat is low - imports of chicken meat were estimated at around 36,921 tons, valued at €37.4 million. Thus the domestic poultry meat production covers only a small fraction (around 6%) of the local demand. In the case of beef, the situation appears a bit better, though there is still a high dependence on imports – the level of self-sufficiency was 60% in 2015 (KAS, 2015; MAFRD, 2016). Currently, 30 companies in the industrial meat-processing sector rely mainly on imported raw meat, whilst few small traditional processors rely mostly on fresh domestic meat. The main reason is that imported raw meat, coming mainly from Brazil, Poland and the USA, is usually cheaper than the associated Kosovar products (Bytyqi *et al.*, 2012).

The government is attempting to introduce supportive policies and incentives to promote business opportunities in this field, aimed at enabling Kosovo to rely increasingly on its domestic meat in the near future. Besides improving the production side, one of the main concerns of policy makers and the industry is to understand market demand and in particular, consumer preferences for meat. What signs of quality and safety are consumers looking for? Are there any consumer preferences for domestically produced meat in Kosovo? Hence, understanding consumer preferences and perceptions is important in the decision-making of key stakeholders. Moreover, this issue is a priority for the industry, which needs to become more competitive in the local market. Despite its importance, the availability of research on Kosovo's consumer habits, preferences for and perceptions of food, particularly as regards meat, is limited. Therefore, our study aims to fill this gap by investigating Kosovar consumers' consumption habits (e.g. consumption rate, choice of shopping outlet), preferences and attitude toward different attributes of meat.

Previous research on consumer perceptions and preferences for meat in Kosovo (Bytyqi *et al.,* 2012) and Albania (a neighbouring country where meat market is similar to Kosovo) (Imami *et al.*, 2011; Zhllima *et al.*, 2015) has focused on (perceived) meat safety and quality, which are undoubtedly among the main issues that concern consumers when purchasing meat products. Therefore, we also included food safety issues in our survey. Our study confirms the findings of the above-mentioned studies with regard to consumer concerns over food safety. However, previous studies have used segmentation methods that have certain limitations (e.g. CCE or two-step cluster); our paper uses the FRL approach in connection with the meat sector in Kosovo for the first time, thus providing more insights into the consumer segmentation profile and behaviour. Furthermore, our study explores more extensively the various attributes that are perceived to be linked to food safety (and quality) by consumers.

Meat consumer behaviour has received growing attention from researchers so far (Hartmann and Siegrist, 2017; Janssen *et al.*, 2016; Nesbitt *et al.*, 2014; Walley *et al.*, 2014; Walley *et al.*, 2015). Perceptions, preferences, and demand for meat with an emphasis on food safety has been the focus of many studies including Europe (e.g., Verbeke and Viaene, 1999; Becker *et al.*, 2000; Bernués *et al.,* 2003a; Bernués *et al.,* 2003b; Grunert *et al.*, 2004; Verbeke and Ward, 2006; Loureiro and Umberger, 2007; Vukasovič, 2013; Van Loo *et al.*, 2014). Consumers have become increasingly concerned about the safety of food, mainly because of several sector-wide crises in the last decade (e.g. Bovine Spongiform Encephalopaty (BSE) or mad cow disease, the dioxin crisis, classical swine fever and foot and mouth disease). Glitsch (2000) conducted a cross-national study about European consumers' perceptions of fresh meat quality in Germany, Ireland, Italy, Spain, Sweden and the UK and found that the place of beef and pork purchase is an important quality indicator at the point when consumers make a purchasing decision, while colour is the major important intrinsic quality cue for beef, pork and chicken. Freshness is regarded as a signal that warrants safety. Becker *et al.* (2000) conducted a consumer survey in Germany and found that important extrinsic cues consumers used in judging quality of fresh meat are country of origin and place of purchase, while flavour or smell are important intrinsic cues. Moreover, country of origin and freshness are of high importance for assessing safety of meat, whereas the most trusted source of information on the safety of meat is the butchery.

Owing to the limited number of previous consumer studies on Kosovo, consumer preferences and attitude toward different quality and safety attributes of meat products are our focus in this study. In order to deliver more useful information to industry, consumer segmentation analysis was conducted based on their food related lifestyle (FRL). This approach was first developed by Grunert *et al.* (1993) and Brunsø and Grunert (1995) as a mediator between consumers' values and their behaviour. Afterwards, it was applied in different cultural contexts (Brunsø *et al.*, 1995; De Boer *et al.*, 2004; Wycherley *et al.*, 2008) and tested for cross-cultural validity (Scholderer *et al.*, 2004). The FRL model aims to understand lifestyles as a cognitive construct, which explains consumer behaviour towards food (Obermowe *et*

*al.*, 2011). A food-related lifestyle comprises of five cognitive categories, namely: ways of shopping; quality aspects for evaluating food products; cooking methods; consumption situations; and purchasing motives. The FRL approach appears to be a very useful way of segmenting food consumers (Bernués *et al.,* 2012; Escriba-Perez *et al.*, 2017; Ripoll *et al.*, 2015; Sorenson *et al.*, 2011; Thøgersen, 2017; Torrissen and Onozaka, 2017), and to the best of our knowledge, there are no published studies on the meat consumption of Kosovar consumers that use this method. Thus, this study aims to: (i) describe Kosovar consumers' characteristics, attitudes and preferences related to meat products; (ii) segment consumer groups according to their food related lifestyle; and (iii) provide insight information about Kosovar consumers' preferences for meat and suggest possible strategies for policy makers, the food industry and the marketer.

## Methodology

This research was developed in the context of the FAO Project "Policy assistance to Kosovo to identify support measures linking local agricultural production with the domestic market TCP/KOS/3401" (FAO, 2014). The study combines qualitative methods (phase 1) and quantitative methods based on a structured consumer survey (phase 2).

In the qualitative research phase, expert interviews (fifteen interviews with food chain actors (e.g., wholesalers, retailers and experts) and four consumer focus groups were carried out in autumn 2013. Each focus group comprised 8-9 participants with mixed socio-economic status. The focus groups were conducted in a Hotel Meeting room in Pristina (Kosovo) based on a specific protocol/guideline developed in the project. The objectives of the focus groups were: a) obtaining information and getting a better understanding of the latest market development trends in Kosovo for the main agri-food products and b) exploring consumer preferences and purchasing behaviour for the main agri-food products that are produced in Kosovo, with the aim of eliciting useful information for the design of the structured survey.

The structured questionnaire was designed based on a literature review (as reflected in the previous section) and results from the qualitative phase. The questionnaire was structured in 7 parts: (1) general shopping habits; (2) meat consumption habits; (3) food-related lifestyle; (4) attitudes, purchasing and consumption habits for meat products; (5) price consciousness; (6) safety and quality perception toward meat products; and (7) respondent and household characteristics. In the 3rd section, a reduced version of Food Related Lifestyle (FRL) instrument proposed by Dimech *et al.* (2011) was included to segment and profile consumers. Although the full version of FRL has been used in several segmentation studies due to its consistency in results across cultures and countries, we decided to use a reduced version because the questionnaire has already contained several questions and we did not want to overload the respondents. In the reduced version, there are 5 aspects: (i) subjectivity of quality, (ii) consumer difference, (iii) intangible dimensions, (iv) information environment, and (v) price.

The questions took closed-form and multiple choices. When it came to the attitude section, respondents were

asked to give their opinion toward statements according to a 5-point Likert-like scale, ranging from 1 (Strongly disagree) to 5 (Strongly agree). Respondents also had an option to skip a question, in order not to force them to reply, which might end up in incorrect answers. The draft questionnaire was pre-tested through direct interviews with consumers in Prishtina.

Data collection was conducted in Prishtina (capital city), Prizren and Gjilan – the 3 largest cities of Kosovo. The interviews were carried out face-to-face with randomly selected consumers in different parts of the town (streets, shopping centres, etc.) by trained/experienced graduates/students under the supervision of the authors of this paper. Altogether, 300 consumers were interviewed during December 2013 – January 2014. The sample structure was proportional to the population size of the three selected main urban centres. Before the interview started, interviewers asked four screening questions related to being the main household food shoppers; being the responsible for preparing/cooking food in household; being the person who decides what food to buy; and consuming meat.

Data have been analysed using both mono- and multivariate techniques by using SPSS version 24.0. A basic descriptive approach has been used to describe Kosovar consumer characteristics in terms of socio-demographics, consumption habits and perceptions toward food safety and quality of meat. Consumer groups were identified using the data contained in the FRL section of the questionnaire, by applying the classical segmentation approach. First, factor analysis was applied aimed at defining specific dimensions as useful ways to describe consumers. Afterwards, a cluster analysis method was employed, aimed at grouping the individuals according to these specifications. Finally, the resulting clusters have been evaluated according to socio-demographic and consumption habit variables and tested for differences in attitudes towards domestically produced meat.

## Sample characteristics

Descriptive statistics for the socio-demographic characteristics of the sample are presented in Table 1. We found that the respondents' characteristics are consistent with the Kosovo urban census. The gender structure of the sample was quite balanced and an average respondent's age was 40 years. The majority of respondents hold a university degree (49%). Median respondents possess high school diploma (39%), while around 10% of respondents had lower education. Thus, respondents are largely educated, which is common feature of urban areas in Kosovo. Around 40% of respondents have 5-6 household members, which is also common for an average Kosovar household. The majority of respondents had household incomes between 501-800 euro/month, while the average food expenditure was 314 euro/month. However, levels of household food expenditures were quite diversified among respondents.

As to meat consumption, beef and chicken are by far the most consumed type of meat among the interviewees (Table 2). Consumption of chicken was around 2.5 kg/household/week, while consumption of beef was approximately 2.4 kg/household/week. More than 90% percent of the respondents stated that they never consumed pork (as expected, based on cultural and religious grounds). Also, small ruminants (lamb and goad-kid meat) were not consumed often (particularly goat-kid – 70% stated that they have never consumed this type of meat). Among the processed meat products,

**Table 1:** Socio-demographic characteristics of the sample.

| Socio-demographic characteristics | Percent of total |
| --- | --- |
| Gender (N=297) | |
| Male | 46.8 |
| Female | 53.2 |
| Age (N=299) *(Mean, st.dev.)* | *40 (13.097)* |
| 19-30 years old | 29.10 |
| 31-40 years old | 21.74 |
| 41-50 years old | 21.40 |
| 51-60 years old | 21.40 |
| More than 60 years old | 6.36 |
| Education level (N=296) *(Median, st.dev.)* | *High school (0.745)* |
| Basic (4 years) | 2.4 |
| Middle (9 years) | 9.1 |
| High school (12 years) | 39.2 |
| University | 49.3 |
| Household size (N=296) *(Median, st.dev.)* | *6 members (2.075)* |
| 2 members | 1.7 |
| 3-4 members | 24.0 |
| 5-6 members | 39.9 |
| 7-8 members | 25.3 |
| More than 8 members | 9.1 |
| Income (N=298) *(Median, st.dev.)* | *501-800 EUR (1.311)* |
| 150-250 EUR | 9.1 |
| 251-500 EUR | 30.9 |
| 501-800 EUR | 32.6 |
| 801-1,200 EUR | 17.1 |
| 1,201-1,500 EUR | 5.0 |
| 1,501-2,000 EUR | 2.7 |
| More than 2,000 EUR | 2.7 |
| Monthly expenditure on food (N=297) *(Mean, st.dev.)* | *314 EUR (136.401)* |
| 80-200 EUR | 26.9 |
| 201-300 EUR | 33.7 |
| 301-400 EUR | 25.3 |
| 401-500 EUR | 8.4 |
| More than 500 EUR | 5.7 |

Source: own data

**Table 2:** Meat consumption patterns in the sample.

| No. | Products | N | Frequency of consumption | | | Average consumption (kg/week) |
| --- | --- | --- | --- | --- | --- | --- |
| | | | Mean | Std. dev. | Median | |
| 1. | Chicken | 298 | 3.40 | 0.871 | 3 | 2.53 |
| 2. | Beef | 299 | 3.19 | 1.056 | 3 | 2.37 |
| 3. | *Suxhuk* (typical local salami) | 298 | 3.13 | 1.020 | 3 | n.a. |
| 4. | Sausages | 296 | 2.86 | 1.157 | 3 | n.a. |
| 5. | Meatballs | 298 | 2.72 | 0.991 | 2 | n.a. |
| 6. | Dried meat | 298 | 2.64 | 1.058 | 2 | n.a. |
| 7. | Fish | 297 | 2.62 | 0.990 | 2 | 1.17 |
| 8. | Lamb | 296 | 1.99 | 0.834 | 2 | n.a. |
| 9. | Goat kid meat | 293 | 1.42 | 0.771 | 1 | n.a. |
| 10. | Pork | 294 | 1.17 | 0.644 | 1 | 0.09 |

Note: Participants were asked to rate their frequency of consumption for each meat product from never to always (1 = never, 2 = occasionally, 3 = frequently, 4 = often, 5 = always); n.a. = not applicable
Source: own calculations

*suxhuk* (traditional Kosovo spicy salami produced from bovine meat) was the most consumed.

As to places of shopping, results suggest that respondents prefer to buy meat products at specialized butcher's shops, followed by supermarkets and farms, respectively (Table 3). The change in lifestyle in larger urban areas is driving consumer-purchasing preference towards supermarkets; therefore, many respondents prefer to buy from supermarkets. This might be because it is more convenient, and they could buy several other things at once. However, most of the surveyed consumers still prefer to buy meat from butcher's shops (and this is especially true for beef). This confirms the view of consumers who participated in preliminary focus groups and expressed more trust in the butcher's shop to provide quality meat for them. Purchasing meat directly from farms can somehow guarantee local origin and freshness but it is less convenient; therefore, it is the least preferred shopping outlet when compared to other options.

As to food safety issues, most respondents thought that the level of food safety at different outlets was moderate, while they thought that farmer and factory had high food safety levels in general (Table 4).

Actually, it is common for most households to establish a long-lasting trust relationship with one butcher's shop. About half of the consumers tend to buy meat from the same retailer/butcher. Interestingly, many consumers would prefer to buy meat at the same place where it was slaughtered – this could be taken as a strategy for the consumer seeking a guarantee for freshness. However, this preference indicates the low level of awareness among consumers – according to safety standards, meat should not be sold or bought at the same place where animals are slaughtered. Thus, consumer understanding, information and awareness for food safety are major concerns.

**Table 3:** Places where consumers shopped in the sample.

| No. | Outlet | N | Frequency of purchase | | |
|---|---|---|---|---|---|
| | | | Mean | Std. dev. | Median |
| 1. | Specialized butcher | 299 | 3.85 | 0.955 | 4 |
| 2. | Supermarket | 299 | 3.40 | 1.019 | 4 |
| 3. | On farm | 295 | 3.14 | 1.156 | 3 |
| 4. | Others | 118 | 2.12 | 1.163 | 2 |

**Note:** Participants were asked to rate their frequency of purchase at different outlets from never to always (1 = never, 2 = occasionally, 3 = frequently, 4 = often, 5 = always)
Source: own calculations

**Table 4:** Perceived safety level of shopping outlets for meat products.

| No. | Products | Perceived level of safety | | |
|---|---|---|---|---|
| | | Mean | Std. dev. | Median |
| 1. | Farmer | 2.72 | 0.828 | 3 |
| 2. | Factory | 2.63 | 0.934 | 3 |
| 3. | Supermarket | 2.23 | 0.892 | 2 |
| 4. | Convenience shop | 1.69 | 0.863 | 2 |
| 5. | Green market | 1.62 | 0.946 | 2 |

Note: Participants were asked to rate their perceived safety level of each shopping outlet for meat products from very low to very high (0 = very low, 1 = low, 2 = moderate, 3 = high, 4 = very high)
Source: own calculations

Our questionnaire also included a series of questions aimed at assessing consumers' perceptions of Kosovar and foreign meat products (Table 5 and Table 6). It should be highlighted that most respondents perceived domestically produced beef and chicken to be safer and of higher quality than imported meat. However, EU origin was better perceived when compared to other foreign origin (e.g. Latin America or Serbia, which are among the main sources of imported meat). Expiry (or best before) date turned out to be the most important indicator of food safety for consumers when buying beef products. Moreover, having a food safety certificate was also perceived to be very important. Knowing the producer is considered more important than knowing the seller and brand reputation. Similar answers/preferences were stated also for chicken; however, in this case, local origin is more important than knowing the producer, while brand reputation is more important than EU origin.

**Table 5:** Perceptions toward safety and quality of meat in the sample.

| No. | Statement | Mean | Std. dev. | Median |
|---|---|---|---|---|
| 1. | Domestic chicken meat is safer than imported chicken meat | 4.08 | 0.795 | 4 |
| 2. | Domestic beef is of high quality | 4.05 | 0.815 | 4 |
| 3. | Domestic chicken meat is of high quality | 4.03 | 0.794 | 4 |
| 4. | Domestic beef is safer than imported beef | 4.02 | 0.906 | 4 |
| 5. | Meat is fresh if it was slaughtered less than 48 hours before and preserved in the fridge | 3.84 | 0.932 | 4 |
| 6. | I prefer to buy the meat in the same place where it is slaughtered | 3.47 | 1.07 | 4 |
| 7. | I always buy from the same butcher | 3.41 | 1.111 | 4 |
| 8. | Imported beef is of high quality | 2.62 | 0.991 | 3 |

Note: Participants were asked to rate their opinion toward the statements from strongly disagree to strongly agree (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree)
Source: own calculations

**Table 6:** Important characteristics of beef and chicken products regarding food safety in the sample.

| No. | Characteristics | Beef | | | Chicken | | |
|---|---|---|---|---|---|---|---|
| | | Mean | Std. dev. | Median | Mean | Std. dev. | Median |
| 1. | Expiry date | 3.29 | 0.789 | 3 | 3.31 | 0.875 | 4 |
| 2. | Food safety certificate | 3.04 | 0.862 | 3 | 3.08 | 0.858 | 3 |
| 3. | Domestic (Kosovo) origin | 2.79 | 0.830 | 3 | 2.74 | 0.840 | 3 |
| 4. | Knowing the producer | 2.69 | 0.937 | 3 | 2.67 | 0.841 | 3 |
| 5. | Local origin (specific place in Kosovo) | 2.68 | 0.856 | 3 | 2.70 | 0.830 | 3 |
| 6. | EU origin | 2.49 | 1.049 | 3 | 2.47 | 1.047 | 3 |
| 7. | Knowing the seller | 2.48 | 0.898 | 2 | 2.44 | 0.888 | 2 |
| 8. | Brand reputation | 2.44 | 0.891 | 2 | 2.55 | 0.918 | 2 |
| 9. | Foreign origin | 1.90 | 0.907 | 2 | 1.98 | 0.949 | 2 |

Note: Participants were asked to rate the importance of each characteristics for meat from very low to very high (0 = very low, 1 = low, 2 = moderate, 3 = high, 4 = very high)
Source: own calculations

# Consumer segments and profiles: the food-related lifestyle approach

In this study, we performed a segmentation analysis based on 245 consumers who answered all FRL questions including socio-demographics and consumption habits. In order to make a segmentation of Kosovar consumers using the FRL approach, we first investigated the relationship among the 18 FRL items to convert them into a smaller number of independent and easily interpretable dimensions or factors. We thus ran a Principal Component Analysis (PCA) using Promax rotation to allow correlation between dimensions. We found that three items[1] are not grouped into any factor; hence, we decided to exclude these questions and ran again the PCA with promax rotation. Prior to performing PCA, the suitability of data for factor analysis was assessed. The Kaiser-Meyer-Olkin (KMO) statistics were 0.756, which exceeded the recommended value of 0.6 (Kaiser, 1974). The Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance, thus supporting the factorability of the correlation matrix.

**Table 7:** Factors from Principal Components Analysis.

| Items | Factor loading | Cronbach's alpha |
|---|---|---|
| **Factor 1 (product information, sensory and awareness)** | | **0.698** |
| Product information is of high importance to me. I need to know what the product contains. | 0.888 | |
| I make a point of using natural or ecological food products | 0.723 | |
| I try to plan the amounts and types of food that the family consumes | 0.598 | |
| Eating is a matter of touching, smelling, tasting and seeing; all the senses are involved | 0.488 | |
| Before I go shopping for food, I make a list of everything I need | 0.466 | |
| I like to buy food products in specialty stores where I can get expert advice | 0.424 | |
| **Factor 2 (Experimentation)** | | **0.585** |
| I like to try new types of food that I have never tasted before | 0.722 | |
| Recipes and magazines articles from other cooking traditions make me experiment in the kitchen | 0.707 | |
| Shopping for food is like an entertainment | 0.650 | |
| **Factor 3 (The role of food in social life)** | | **0.596** |
| Dining with friends is an important part of my social life | 0.721 | |
| Going out for dinner is a regular part of my household eating habits | 0.719 | |
| I always plan what we are going to eat a couple of days in advance | 0.709 | |
| **Factor 4 (Tradition)** | | **0.420** |
| I only buy and eat foods which are familiar to me | 0.731 | |
| I consider the kitchen to be the woman's domain | 0.636 | |
| I always check prices, even on small items | 0.593 | |

Rotation method: Promax with Kaiser Normalization, rotation converged in six iterations; variables included in the PCA are expressed using 5-point scales
Source: own calculations

We show the variables associated with the principal components in Table 7. In the last column, Cronbach's Alpha tests are shown with values between 0.4 and 0.6. Results from the data reduction procedure suggest that in our sample, the fifteen variables analysed can be grouped into four significantly different factors, explaining 52% of the variance. Results from factor loading of each variable among the factors extracted may be associated with: (i) product information, sensory and awareness; (ii) experimentation; (iii) the role of food in the consumer's social life; and (iv) tradition.

The first factor labelled "product information, sensory and awareness" explains 24.2% of the total variance. It contains variables showing consumers' interests in getting information on the characteristics of the food that they are consuming or buying. It indicates the degree to which planning is important for the household when it comes to buying food and the planning to cook for meals. Food is for them also an involving sensory experience. The second factor labelled "experimentation" explains 11.5% of the total variance. It is linked to variables showing consumers' willingness to experience new tastes and trying out different recipes. They also love food shopping. The third factor called "the role of food in the consumer's social life" explains 8.5% of the total variance. It is related to those variables indicating that consumers view food as an important role in social life to get together with family and friends. The fourth factor, which explains 7.8% of the total variance, is labelled "tradition". It collects variables indicating preferences for familiar food and traditional approaches to cooking, including price consciousness.

Based on the four factors obtained from the PCA and the standardized score of the questions we excluded at the beginning (called "convenience", "snacks", "cooking is necessity"), we performed a cluster analysis, using a K-means clustering technique (Hair *et al.*, 2009). First, a hierarchical cluster analysis with a Ward linkage method (using Euclidean distances) was performed in order to define the optimum number of clusters. By using the K-means clustering method, two clusters were identified. Results from the cluster analysis are shown in Table 8.

The first cluster accounts for 46.12% (113 persons) of total sample and is described as "conservative food consumers". These are serious committed housekeepers who are continuing to carry on their tradition. They are price sensitive, and prefer tradition more than any another segment.

**Table 8:** Categories of final clusters in the sample.

| Factor | Cluster | |
|---|---|---|
| | 1 Conservative food consumer (N = 113) | 2 Innovative food consumer (N = 132) |
| Factor 1 Product information, sensory and awareness | -0.681 | 0.588 |
| Factor 2 Experimentation | -0.458 | 0.410 |
| Factor 3 Social life | -0.478 | 0.405 |
| Factor 4 Tradition | 0.005 | -0.006 |
| Factor 5 Convenience | -0.500 | 0.460 |
| Factor 6 Snacks | 0.330 | -0.310 |
| Factor 7 Cooking is a necessity | 0.430 | -0.390 |

Source: own calculations

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[1] Question: (a) When I do not really feel like cooking, I get one of the other members of my family to do it ("convenience"); (b) In our house, nibbling has taken over and replaced set eating hours ("snacks"); (c) Cooking is a task that is best over and done with ("cooking is necessity").

As a result, this segment is not interested in challenging or innovative cooking. New products or recipes are rated the least important. Cooking for them is a necessity that has to be done. In addition, cooking is presumably the woman's job, since these consumers regard the kitchen as the woman's domain. Information on products purchased and quality attributes of products, such as, ecology and nature are given a lower priority. They snack more in comparison to the other segment.

The second cluster is called "Innovative food consumer", which accounts for 53.88% (132 persons) of the total sample. Innovative food consumers are highly interested in food from several aspects. They seek new food experience rather than simply eating out for convenience or hunger. For them, eating experience involves all sensations. Social togetherness over a meal is also important for these consumers as well as they attach an importance to eating in restaurants or together with family, friends and acquaintances. Furthermore, consumers in this segment are far more interested in new products as well as recipes in relation to the other segment. They have passion for cooking, welcome innovation together with its challenges and food shopping is a delightful activity for them. Product information is deemed very important. This segment is more interested in ecology and nature and they do not snack much. Food and related products are an important part of these consumers' lives, and are essential for social togetherness. This might explain their interesting/critical shopping behaviour, which is characterized by a strong interest in product information and quality aspects. Convenience is also important for them.

## Profiling Kosovar consumer segments with socio-demographic variables

In order to understand where the differences between the segments lie and which classifying variables are significantly different between two groups, Student T-Test, Mann-Whitney U test and Chi-square test were performed. Results revealed that all factors could significantly differentiate the segments. The relationships between identified segments and socio-demographic variables were also analysed using the above-mentioned means.

The average age of respondents in Cluster 2 or Innovative food consumer (39 years old) is significantly lower than Cluster 1 or Conservative food consumer (43 years old) ($t = 2.0334$, $p = 0.022$). They have higher education as the majority of the respondents in Cluster 2 hold an university degree, while most respondents in Cluster 1 have a high school diploma ($z = 4.993$, $p < 0.001$). The average income of respondents in Cluster 2 (501-800 euro/month) is higher than that of in Cluster 1 (251-500 euro/month) ($z = 3.780$, $p < 0.001$). In addition, respondents in Cluster 1 are more price sensitive than respondents in Cluster 2 ($t = 3.9774$, $p < 0.001$).

Regarding shopping outlets for meat, respondents in Cluster 1 have significantly different preferred outlets from respondents in Cluster 2. While respondents in Cluster 2 show significantly higher preferences to purchase meat at specialized butchers ($z = 5.726$, $p < 0.001$) and on farms ($z = 3.588$, $p < 0.001$), they also show significantly lower preferences to purchase meat at supermarkets than those who are in Cluster 1 ($z = 3.124$, $p = 0.002$).

When respondents were asked to rate their perceived level of safety to buy meat products at different outlets, respondents from Cluster 1 rated supermarket as having high/very high level of safety more than respondents in Cluster 2 ($z = 3.145$, $p = 0.002$). On the contrary, respondents in Cluster 2 rated high/very high safety level of meat buying from farmers more than respondents in Cluster 1 ($z = 1.992$, $p = 0.046$).

Regarding origin of meat (PDO (Protected Designation of Origin) and PGI (Protected Geographical Indications) certifications), respondents in Cluster 2 stated they were willing to pay more for Kosovar meat from a preferred region ($z = 3.644$, $p < 0.001$) and were aware of PDO certification ($\chi2 = 7.918$, $p = 0.005$) and PGI certification ($\chi2 = 8.322$, $p = 0.004$) more than respondents in Cluster 1. Around 60% of respondents in Cluster 2 stated that they agreed or strongly agreed to pay more for meat from the preferred Kosovo region compared to 6% of respondents in Cluster 1. Around 28% and 21% of respondents in Cluster 2 were aware of PDO and PGI, while only 13% and 8% of respondents in Cluster 2 were aware of these certifications.

When respondents were asked whether they had ever bought products with PDO label, respondents from Cluster 2 responded that they did more than respondents in Cluster 1 (($\chi2 = 4.930$, $p = 0.026$). Around 19% of respondents in Cluster 2 said that they had already bought PDO products, while only 9% of respondents in Cluster 1 have ever bought them. Note that PDO and PGI concepts are relatively new for Kosovo consumers; therefore, most consumers are unaware of them.

## Discussion and conclusions

The paper analysed attitudes and preferences of Kosovar consumers towards quality and origin of meat. Results suggest that consumers in Kosovo pay more attention to food safety and quality using expiration date, food safety certification, and origin, followed by trust on sellers as well as brand reputation. These results are in line with a previous study (Bytyqi *et al.*, 2012). Furthermore, our study shows that Kosovar consumers perceive country of origin (COO) and place of purchase as important cues for assessing safety of meat like consumers in other countries in Europe (similarly to Becker *et al.,* 2000 and Glitsch, 2000). Kosovar consumers prefer domestic meat (beef and chicken meat) to the imported one, as for them domestic origin is a sign of quality and safety for meat. Based on surveyed consumer preferences, there is a good chance of domestic or local meat to get a premium price from the consumers. However, information regarding expiration date, food safety certification, and origin should be provided to assist consumer decision at the selling point. Specialized butchery is still the most preferred place to buy meat. This might contribute to the fact that consumers prefer to buy meat from the trusted place where they usually can develop relationship with the seller.

Factor analysis sets out four components of FRL, defined as product information, sensory and awareness, experimentation, the role of food in the consumer's social life and tradition. Using these four factors and three additional factors (convenience, snacks, cooking is necessity), we also identified two clusters for conservative and innovative food consumers. The two clusters identified can be also used for the marketing of the product. Innovative food consumers (Cluster 2) are generally younger, and have a higher level of education and income in comparison to conservative food consumers, while the latter are more price sensitive. Innovative food consumers preferred to purchase meat at specialized butcher and on farm rather than supermarket.

In addition, we also found that the clusters identified using the FRL differ also in terms of attitudes towards Kosovar meat. Innovative food consumers express their strong preference toward domestic meat and are aware of PDO; hence, they could be a suitable target for the value-enhancement of Kosovar meat. This is confirmed by the outcome that innovative food consumers prefer to buy meat at specialized butcher and on farms rather than at supermarkets - probably as a strategy to get genuine domestic meat.

For farmers, processors and traders, our results suggest that there is a need for higher food safety levels in the meat supply chain. Similarly, there is a potential market share for meat products bearing food safety and origin labels. Therefore, private food businesses could consider using food safety and quality standards and the related certification labels to sign consumers that products are safer than the products commonly available on the market. This strategy could allow them to increase their reputation and develop trusted brands or collective labels, which can in turn become important tools to differentiate products as much as to enhance the competitiveness in the high-value market (Henson and Reardon, 2005; Roosen, 2003; Wongprawmas and Canavari, 2017).

Safety control and labelling policies should be supported to achieve food safety targets and to provide consumers with information in order to protect them from deception. Dissemination of information regarding food safety, certification and labels should be able to effectively reach consumers. However, our results show that Kosovar consumers show a "preference" for domestic meat over imported ones and they refer to Kosovo's origin as a sign of safety as well as quality of meat. This suggests that if there were (enough) domestic meat available in the market, possibly with a price comparable to the imported one, there would be high probability that Kosovar consumers would choose domestic meat.

The main limitation of our study is that since we conducted this study using a reduced version of the FRL, its comparability with other studies that used the complete FRL is limited. The Cronbach's alpha of factor 4 (Tradition) is low, but the three items load well on this factor. Therefore, future research should analyse the FRL using the full version of the instrument and compare the results with the current study. In addition, one may argue that our results are inconsistent with the current situation, since Kosovo still has a high level of imported meat consumption. Our analysis targets urban areas but it is important to point out that the situation might be somehow different in rural areas (lower purchasing power, on one hand, but also automatic consumption of farm products on the other hand). Unfortunately, no detailed secondary statistics were available to compare or complement population data with the survey sample profile. Quantitative research would be necessary to go more in-depth into consumer demand and into the issues of food safety along with origin labelling, using combined methods. Another limitation is that the survey was carried out about four years before the submission of the paper and that consequently, changes in consumer habits may have occurred during these years. However, despite the potential changes that could have taken place, it is very unlikely that the average Kosovar consumer's habits and preferences have changed drastically. Nevertheless, the reader is advised to consider the findings of this study with the time and the context within which the survey was conducted in mind, and show caution when generalizing beyond them.

## Acknowledgements

## References

Bartlett, M.S. (1954): A note on multiplying factors for various chi-squared approximations. Joural of the Royal Statistical Society Series B **16**, 296–298.

Becker, E.T., Benner, E. and Glitsch, K. (2000): Consumer Perception of Fresh Meat Quality in Germany. British Food Journal **102** (3), 246–266. https://doi.org/10.1108/00070700010324763

Bernués, A., Olaizola, A. and Corcoran, K. (2003a): Extrinsic attributes of red meat as indicators of quality in Europe: an application for market segmentation. Food Quality and Preference **14** (4), 265–276. https://doi.org/10.1016/S0950-3293(02)00085-X

Bernués, A., Olaizola, A. and Corcoran, K. (2003b): Labelling information demanded by European consumers and relationships with purchasing motives, quality and safety of meat. Meat Science **65** (3), 1095–1106. https://doi.org/10.1016/S0309-1740(02)00327-3

Bernués, A., Ripoll, G. and Panea, B. (2012): Consumer segmentation based on convenience orientation and attitudes towards quality attributes of lamb meat. Food Quality and Preference, **26** (2), 211–220. https://doi.org/10.1016/j.foodqual.2012.04.008

De Boer, M., McCarthy, M., Cowan, C. and Ryan, I. (2004): The influence of lifestyle characteristics and beliefs about convenience food on the demand for convenience foods in the Irish market. Food Quality and Preference **15** (2), 155–165. https://doi.org/10.1016/S0950-3293(03)00054-5

Brunsø, K. and Grunert, K.G. (1995): Development and testing of a cross-culturally valid instrument: food-related life style. Advances in Consumer Research **22**, 475–480.

Brunsø, K., Grunert, K.G. and Johansen, L.B. (1995): The comparison of food-related lifestyles across countries. Appetite **24** (3), 286–287. https://doi.org/10.1016/S0195-6663(95)99871-3

Bytyqi, N., Verçuni, A., Pllana, M., Jahja, A. and Bytyqi, H. (2012): Analysis of Consumer Behavior in Regard to the Beef Meat in Kosovo. Food and Nutrition Sciences **3**, 1514–1521. https://doi.org/10.4236/fns.2012.311197

Dimech, M., Caputo, V. and Canavari, M. (2011): Attitudes of Maltese Consumers towards Quality in Fruit and Vegetables in Relation to Their Food-Related Lifestyles. International Food and Agribusiness Management Review **14** (4), 21–36.

Escriba-Perez, C., Baviera-Puig, A., Buitrago-Vera, J. and Montero-Vicente, L. (2017): Consumer profile analysis for different types of meat in Spain. Meat Science, **129**, 120–126. https://doi.org/10.1016/j.meatsci.2017.02.015

FAO (2014): Unpublished Technical Report: Policy assistance to Kosovo to identify support measures linking local agricultural production with the domestic market.

Glitsch, K. (2000): Consumer perceptions of fresh meat quality: cross-national comparison. British Food Journal **102** (3), 177–194. https://doi.org/10.1108/00070700010332278

Grunert, K.G. (1993): Towards a concept of food-related life style. Appetite **21** (2), 151–155. https://doi.org/10.1016/0195-6663(93)90007-7

Grunert, K.G., Bredahl, L. and Brunsø, K. (2004): Consumer Perception of Meat Quality and Implications for Product Development in the Meat Sector—A Review. Meat Science **66** (2), 259–272. https://doi.org/10.1016/S0309-1740(03)00130-X

Grunert, K.G., Brunsø, K. and Bisp, S. (1993): Food-related life style: development of a cross culturally valid instrument for market surveillance. MAPP working paper no. **12**, Aarhus, Denmark: The Aarhus School of Business

Hair, J., Black, W., Babin, B. and Anderson, R. (2009): Multivariate Data Analysis (7th edition). London: Pearson Education

Hartmann, C., and Siegrist, M. (2017): Consumer perception and behaviour regarding sustainable protein consumption: A systematic review. Trends in Food Science and Technology, **61**, 11–25. https://doi.org/10.1016/j.tifs.2016.12.006

Henson, S. and Reardon, T. (2005): Private agri-food standards: Implications for food policy and the agri-food system. Food Policy **30** (3), 241–253. https://doi.org/10.1016/j.foodpol.2005.05.002

Imami, D., Chan-Halbrendt, C., Zhang, Q. and Zhllima, E. (2011): Conjoint Analysis of Consumer Preferences for Lamb Meat in Central and Southwest Urban Albania. International Food and Agribusiness Management Review **14** (3), 111–126.

Janssen, M., Rödiger, M. and Hamm, U. (2016): Labels for Animal Husbandry Systems Meet Consumer Preferences: Results from a Meta-analysis of Consumer Studies. Journal of Agricultural and Environmental Ethics, **29** (6), 1071–1100. https://doi.org/10.1007/s10806-016-9647-2

Kaiser, H.F. (1974): An index of factorial simplicity. Psychometrika **39** (1), 31–36. https://doi.org/10.1007/BF02291575

KAS (2015): Agricultural Census in the Republic of Kosovo 2014. Available at: http://ask.rks-gov.net/media/1375/final-results.pdf

KAS (2016): Economic Accounts for Agriculture 2015. Available at: http://ask.rks-gov.net/media/2626/economic-accounts-for-agriculture-2015.pdf

Van Loo, E.J., Caputo, V., Nayga, R.M. and Verbeke, W. (2014): Consumers' valuation of sustainability labels on meat. Food Policy **49** (1), 137–150. https://doi.org/10.1016/j.foodpol.2014.07.002

Loureiro, M. L. and Umberger, W. J. (2007): A choice experiment model for beef: What US consumer responses tell us about relative preferences for food safety, country-of-origin labeling and traceability. Food Policy **32** (4), 496–514. https://doi.org/10.1016/j.foodpol.2006.11.006

MAFRD (2014): Kosovo Green report 2014. Available at: http://www.mbpzhr-ks.net/repository/docs/56917_161214_GR_2014_ENG_Final_Printed_Version.pdf

MAFRD (2016): Kosovo Green Report 2016. Available at: http://www.mbpzhr-ks.net/repository/docs/Green_Report_Kosovo_2016_Final_050417.pdf

Nesbitt, A., Thomas, M.K., Marshall, B., Snedeker, K., Meleta, K., Watson, B. and Bienefeld, M. (2014): Baseline for consumer food safety knowledge and behaviour in Canada. Food Control, **38**, 157–173. https://doi.org/10.1016/j.foodcont.2013.10.010

Obermowe, T., Sidali, K.L., Hemmerling, S., Busch, G. and Spiller, A. (2011): Sensory-based target groups for the organic food market – Comparative report from quantitative consumer research. Goettingen, Germany: University of Goettingen

Ripoll, G., Alberti, P. and Panea, B. (2015): Consumer segmentation based on food-related lifestyles and perception of chicken breast. International Journal of Poultry Science, **14** (5), 262–275.

Roosen, J. (2003): Marketing of Safe Food through Labeling. Journal of Food Distribution Research, **34** (3), 77–82.

Scholderer, J., Brunsø, K., Bredahl, L. and Grunert, K.G. (2004): Cross-cultural validity of the food-related lifestyles instrument (FRL) within Western Europe. Appetite **42** (2), 197–211. https://doi.org/10.1016/j.appet.2003.11.005

Sorenson, D., Henchion, M., Marcos, B., Ward, P., Mullen, A.M. and Allen, P. (2011): Consumer acceptance of high pressure processed beef-based chilled ready meals: The mediating role of food-related lifestyle factors. Meat Science, **87** (1), 81–87. https://doi.org/10.1016/j.meatsci.2010.09.006

Thøgersen, J. (2017): Sustainable food consumption in the nexus between national context and private lifestyle: A multi-level study. Food Quality and Preference, **55**, 16–25. https://doi.org/10.1016/j.foodqual.2016.08.006

Torrissen, J. K. and Onozaka, Y. (2017): Comparing fish to meat: Perceived qualities by food lifestyle segments. Aquaculture Economics and Management, **21** (1), 44–70. https://doi.org/10.1080/13657305.2017.1265022

Verbeke, W. and Viaene, J. (1999): Consumer Attitude to Beef Quality Labeling and Associations with Beef Quality Labels. Journal of International Food and Agribusiness Marketing **10** (3), 45–65. https://doi.org/10.1300/J047v10n03_03

Verbeke, W. and Ward, R.W. (2006): Consumer interest in information cues denoting quality, traceability and origin: An application of ordered probit models to beef labels. Food Quality and Preference **17** (6), 453–467. https://doi.org/10.1016/j.foodqual.2005.05.010

Vukasovič, T. (2013): Attitude towards organic meat: an empirical investigation on West Balkans Countries (WBC) consumers. World's Poultry Science Journal, **69** (3), 527–540. https://doi.org/10.1017/S004393391300055X

Walley, K., Parrott, P., Custance, P., Meledo-Abraham, P. and Bourdin, A. (2014): A review of UK consumers' purchasing patterns, perceptions and decision making factors for poultry meat. World's Poultry Science Journal, **70** (3), 493–502. https://doi.org/10.1017/S0043933914000555

Walley, K., Parrott, P., Custance, P., Meledo-Abraham, P. and Bourdin, A. (2015): A review of French consumers purchasing patterns, perceptions and decision factors for poultry meat. World's Poultry Science Journal, **71** (1), 5–14. https://doi.org/10.1017/S004393391500001X

Wongprawmas, R. and Canavari, M. (2017): Consumers' willingness-to-pay for food safety labels in an emerging market: The case of fresh produce in Thailand. Food Policy, **69** (5), 25–34. https://doi.org/10.1016/j.foodpol.2017.03.004

Wycherley, A., McCarthy, M. and Cowan, C. (2008): Speciality food orientation of food related lifestyle (FRL) segments in Great Britain, Food Quality and Preference **19** (5), 498–510. https://doi.org/10.1016/j.foodqual.2008.02.006

Zhllima, E., Imami, D. and Canavari, M. (2015): Consumer perceptions of food safety risk: Evidence from a segmentation study in Albania. Journal of Integrative Agriculture **14** (6), 1142–1152. https://doi.org/10.1016/S2095-3119(14)60997-7