

THE RELATIONSHIP BETWEEN FOOD SAFETY, FOOD QUALITY AND CUSTOMER SATISFACTION

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Abstract

The nutrition of all people is oriented, generally, on a basic food, which provides the daily needed nutrients. By their main components, meat products contribute to the growth of human body cells, to recover the damaged tissues, to maintain health and work capacity. For the satisfaction of the growing and diversified requirements needed for a modern diet, today there is a wide variety of food assortments. The purpose of this market study was to identify consumer preferences in terms of meat products consumption. The study includes consumer research, based on a questionnaire, which was completed by the direct interview method. The target group of respondents included people from urban and rural areas, young people, adults and retirees, respecting a certain equality of gender. Starting from these objectives, a number of working hypotheses have been established to see whether they are verified or not. The results show the existence of some discrepancies between the perception and interest for quality and safety food. The consumers are concerned about food safety, but this is not a priority in the process of purchasing food, the sensorial characteristics and the cost price underlying the acquisition process.

Key words: customer satisfaction, food quality, food safety, meat products

INTRODUCTION

Over the centuries, humans have selected and bred livestock species, creating a range of breeds with special traits, adapted to specific environments, for the conversion of particular types of vegetation and feed into locally-distinct foods, or for the production of specific products (Tăpăloagă, 2016; Tăpăloagă et al., 2016). Valuable animals, intensively bred to supply uniform products under controlled management conditions – exist alongside multipurpose breeds kept by small-scale farmers and herders, mainly in low external input production systems (Tăpăloagă, 2014; Tăpăloagă et al., 2008). The body homeostasis depends on the character of nutrition, influencing the human system functions, through enzymatic and hormonal factors (Ilie, 2007).

Through this research, the analysis of the preferences and consumption habits of interviewed people was pursued, in order to determine the meat products consumption choice and finding out the desires and possible discontents about certain types of meat products, existing on the market. Food safety concept used today includes the whole food

chain intended for consumption by animals or humans (Ilie, 2013).

The aim of the study was to achieve the following objectives: determining the profile of meat products consumer; identifying the type of meat product frequently consumed; identifying the place of purchase; determining the motivations underlying the consumption of meat products; identifying the importance of the presentation of meat products; identifying the consumer's level of information, taking into account the content of the label and the main quality characteristics; determining the level of meat products consumption; identifying the main quality features which drive consumers to purchase a certain product.

MATERIALS AND METHODS

The questionnaire was realized in accordance with the research objectives and with the information which needs to be collected. In its achievement, the purpose of the research was taken into account and also of the main objectives pursued. The questions provide the possibility to choose the answer that best suits the consumer's claims, but at some questions the respondent was left to express his / her

opinion, when his variant was not among those presented.

The questionnaire contained questions about the choice of meat products preferred by the consumers, the way of products presentation, questions about the frequency of meat products consumption and the preferred place of purchase. There are also questions about the consumer's interest on the information content of the label, important issues in the purchase decision.

The market survey was conducted on a sample of 114 people. Their answers to the questionnaire questions were recorded, together with the spot observations and possible reflections that have emerged later.

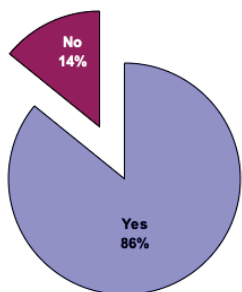
The target group of respondents was made up of people residing in both urban and rural areas, friends and gentiles, but also among unknown people, young people, adults and retirees, respecting a certain equality of gender, considering the fact the meat products are consumed by a large population category.

RESULTS AND DISCUSSIONS

To assess the qualities consumers most value in meat products, survey respondents were presented with a list of questions.

1. Are you consuming meat products?

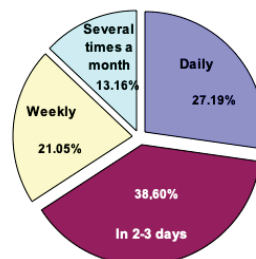
Yes	98	85.96%
No	16	14.04%



Of the 114 respondents, it is found that almost 86% are consumers of meat products, a finding that supports the assumption that they are products consumed by a large number of people, so the effects of possible food nonconformities may be ample among the consumers.

2. How often do you buy meat products?

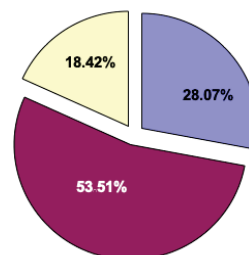
daily	31	27.19%
once in 2-3 days	44	38.60%
weekly	24	21.05%
several times a month	15	13.16%



In relation to the frequency of consumption, it can be said that the majority (38.60%) of population consumes meat products at a range of 2-3 days and only 13.16% of respondents only a few times in a month.

3. How much meat products do you buy?

under 0.5 kg	32	28.07%
1-2 kg	61	53.51%
over 2 kg	21	18.42%

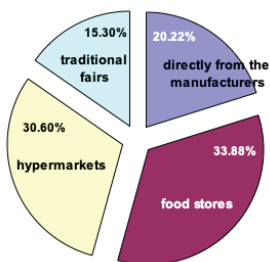


In terms of quantities, it turned out that most consumers (53.51%) use an average of 1-2 kg of meat products per month.

4. Where do you buy most of the meat products? (more possible answers)

directly from the manufacturers	37	20.22%
food stores	62	33.88%
hypermarkets	56	30.60%
traditional fairs	28	15.30%

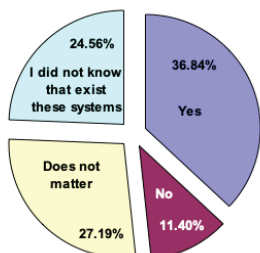
Regarding the places to buy meat products, consumers are frequently attracted by the food stores, followed very closely by the hypermarkets.



Very few consumers choose the traditional fairs to purchase these products, as the first cause is the convenience of consumers and second, the inconsistency in organizing these fairs.

5. Do you prefer to buy meat products from the manufacturers that have implemented and certified a quality management system?

Yes	42	36.84%
No	13	11.40%
Does not matter	31	27.19%
I did not know that these systems exist	28	24.56%



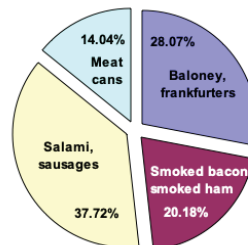
Related to the existence of systems and levels that protect the safety and health of consumers, insufficient information about the prevention of food risks, ignorance towards this essential information, and lack of significance given to these systems by the consumers, were the main findings. Thus, 63.16% of consumers do not know about the existence of these systems or do not give them the proper importance. Similar approach of consumers towards food safety and food defense systems are mentioned by other authors (Georgescu, 2013a; Georgescu, 2013b).

6. What types of meat products do you prefer to consume?

In the category of „meat products types” there is an increased demand for the assortments

“ready to eat” which can easily represent the basis of a sandwich.

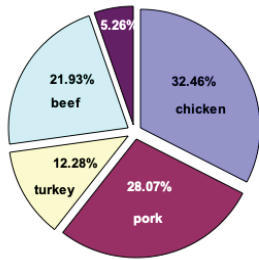
Baloney, frankfurters	32	28.07%
Smoked bacon, smoked ham	23	20.18%
Salami, sausages	43	37.72%
Meat cans	16	14.04%



In 2003, in British Food Journal, Tihomir Vranešević, discussed about „The effect of the brand on perceived quality of food products” He considered that the chosen marketing strategy (including the branding as its integral parts) is highly important in the process of assessing meat quality (Vranešević and Stančec, 2003). The brand becomes one of the basic motives for the consumers’ choice of a particular food product. The importance of the product brand shall be seen primarily in its impact on consumers’ choice and their loyalty through identifying and differentiating quality and origin, as well as creating additional values. The author analyzes the sales of tin cans as well as explores the effect of the product brand on sales. The main conclusions of the paper are that consumers do not value products based exclusively on their physical characteristics and that in the process of making a purchasing decision when choosing an alternative, consumers will first perceive the brand as “a sign of quality” and then other evaluation criteria (physical appearance and packaging, price, the reputation of the retail network).

7. Which type of meat does your choice meat product contain?

chicken	37	32.46%
pork	32	28.07%
turkey	14	12.28%
beef	25	21.93%
others	6	5.26%

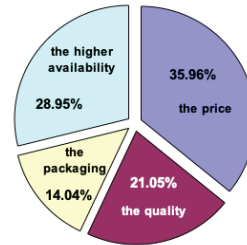


From the category of favorite meats, the chicken meat is desired by 32.46% of consumers due to the relatively low price compared to the turkey meat, and pork is in front of beef as meat preferences.

Other authors also communicated results of surveys about consumer preferences in terms of meat products (Pirvutoiu, 2013; Raita, 2014, 2018). Thus, in the paper “Research on Consumer Behavior in Bucharest Poultry Meat Market”, the authors Pirvutoiu and Popescu, (2013) stated the consumer preference for various meat sorts. Poultry meat was mentioned by 82%, respondents, pork by 71% respondents, fish by 68%, beef by 39%, turkey by 19% and lamb by 14%. This showed that the interviewed persons used to consume various sorts of meat along the year, but the most preferred were chicken, pork and fish. Meanwhile, regarding the consumer preference for the amount of purchased chicken meat, about 62% respondents preferred to buy 1-3 kg chicken meat both with bones and without bones in order to assure a varied menu for their family, 20% respondents used to buy 0,5-1 kg meat, 11% over 3 kg and just 7% less than 0.5 kg. The smallest amount of meat was justified by the reduced number of members in the family, consumption frequency and budget allotted for food. Most of consumers preferred to buy fresh meat and mainly every 2-3 days in order to cover the weekly need of their family.

8. What is the main criterion for choosing a meat product?

the price	41	35,96%
the quality	24	21,05%
the packaging and the product appearance	16	14,04%
the higher availability	33	28,95%



The main criterion for choosing a meat product is correlated for 35.96% of respondents with their salary level, so with the cost price and only on the third place is the quality of the purchased food.

”Consumer Preferences for Meat Attributes”, a review published by Kynda (2006), also approached the consumers preferences regarding meat quality. In that paper, while survey respondents rated freshness and taste/flavor as the most important factors on their meat purchasing decisions, 55% of the respondents rated natural production as having an extreme or very important influence on their meat purchasing decisions and 36% of respondents rated local production as having an extremely or very important influence on their purchasing decisions (Kynda et al., 2006).

The highest premium consumers in their study were willing to pay pertained to high-grade beef products, but all meat products bearing both the grass-fed and locally grown labels received willingness to pay premiums over the standard meat products. This indicates that the use of these two labels together will bring a added value compared to individual labels. Furthermore, at least 65% of the respondents were willing to pay extra for the labeled products discussed.

9. Do you read and keep in mind the nutritional information of a product when you buy it?

yes I always read and keep in mind	32	28.07%
yes I read but not always take into account	47	41.23%
I did not pay attention to nutritional information	35	30.70%

It should be noted that all 114 study participants had knowledge about nutritional information, but only a little over a quarter of them took these into account.



10. In your opinion, what manufacturers should do in the future to meet your exigencies?

Regarding the suggestions of those interviewed to the producers of meat products, the highest percentage of them recommends the increasing of products quality, even if the price would be higher and also, new products (Curtis et al., 2006). So, it is worth noting that for consumers the quality of food is a desideratum, but few of them do actually persuade it.

To focus more on quality, even if the price would be higher	38	33.33%
To communicate better with customers	22	19.30%
To introduce new products	31	27.19%
To focus more on packaging	14	12.28%
Others	9	7.89%



In a survey made in U.S.A., by Dr. Shang-Ho Yang and his collaborators, a web-based survey was completed by 3802 consumers distributed across Kentucky, Tennessee, Ohio, Illinois, and Indiana in the autumn of 2015 stated that meat shoppers have very different perspectives in their perceptions of where to source quality and what sorts of services they prefer. While the vast majority of consumers look to the traditional grocer for their meat, other meat marketing formats are also popular. Consumers were also asked to provide their perception of the highest quality source of raw meat. The

authors conclude that different meat merchandising strategies are going to be effective targeting different age groups and geographic populations. Many retailers have figured this out already. Their data suggests decent opportunities for targeted branding and service that could more effectively reach certain segments.

CONCLUSIONS

The results show that there are gaps in the perception and the care of food quality and safety. Even though the manufacturers are making big efforts to increase the food safety of the products they offer, adopting a number of good practices in this respect, their effort to inform the consumers is relatively low.

From the point of view of the perception towards quality and food safety systems for meat products, the consumers have a great emphasis on freshness of products. Despite the fact that the consumers are concerned about food safety, this is not a priority in the acquisition process, the sensorial characteristics and the cost price underlying the acquisition process.

The Romanian consumers have an adequate level of information on the quality characteristics of the consumed products, the label and the nutritional information on it. Being responsible and interested in what they consume, will also lead to an increase in the producers' interest to offering products on high quality standards.

REFERENCES

- Kynda, C.R., Cowee, W.M., Lewis R.S., Thomas, H.R. (2006). *Consumer Preferences for Meat Attributes*. University of Nevada, USA.
- Ilie, L.I. (2007). *Managementul siguranței alimentelor aplicat pentru unități de procesare a cărnii / Food safety management applied to meat processing units*. Bucharest, RO: Printech Publishing House.
- Ilie, L.I. (2013). Hazard assessment of sodium nitrite high level in some meat products. *Current Opinion in Biotechnology*, 24, Supplement 1, S89-S89, DOI:10.1016/j.copbio.2013.05.265.
- Georgescu, M., Savu, C., Dobrea, M., Milca, I., Georgescu, D. (2013a). Comparative assessment of ELISA and HPLC for ochratoxin A detection in pork kidney samples, *Bulletin of University of Agricultural Science and Veterinary Medicine Cluj-Napoca, Veterinary Medicine*, 70 (2), 223-232.

- Georgescu, M., Savu, C. (2013b). Food defense management key role in strategic planning and design of food business operations – ORM case study, *Scientific Works, Series C, Veterinary Medicine*, Bucharest, LIX (2), 261-262.
- Pirvutoiu, I., Popescu, A. (2013). Research on Consumer Behaviour in Bucharest Poultry Meat Market. *Scientific Papers Animal Science And Biotechnologies*, 46 (1), 389-396.
- Raita, Ș., Cornilă, N., Danacu, V., Belu, C., Georgescu, B., Rosu, P., Barbuceanu, F. (2014). Morphological studies on the liver in *Struthio camelus*. *Anatomia, Histologia, Embryologia*, Blackwell Verlag GmbH Ana. Histol. Embryol., 43 (Suppl. 1), 75.
- Raita, Ș.M., Danacu, V., Rosu, P., Georgescu, B., Barbuceanu, F. (2018). Histological research of the muscular stomach in *Struthio Camelus*. *Lucrări științifice, USAMV Iași – seria Medicină Veterinară*, 61.
- Tăpăloagă, D. (2014). *Sisteme de producție animalieră / Livestock production systems*, Bucharest, RO: Vox Publishing House.
- Tăpăloagă, D. (2016). *Tehnologii de obținere a laptelui și a cărnii / Technologies for milk and meat production*, Bucharest RO: Granada Publishing House.
- Tăpăloagă, P.R., Tăpăloagă, D., Mitrănescu, E., Chesa, E. (2008). Comparative researches concerning two reproductive systems in swine breeding, *Bulletin of University of Agricultural Sciences and Veterinary Medicine Cluj – Napoca*, 65 (1-2), 119-121.
- Tăpăloagă, P.R., Tăpăloagă, D., Makki, K.H. (2016). Researches regarding the Reproduction Outline and Indices in a Beef Herd in the South of Romania, *Agriculture and Agricultural Science Procedia*, 346-352, 10.1016/j.aaspro.2016.09.073.
- Vranešević, T., Stančec, R. (2003). The effect of the brand on perceived quality of food products. *British Food Journal*, 105 (11).
- Yang, Shang-Ho, Woods, T. (2016). *Consumer Meat Purchasing Survey: Observations of Millennial and Urban/Rural Residence Trends in Meat Purchasing in Kentucky, Tennessee, Ohio, Illinois, and Indiana*. University of Kentucky.