Attitudes, behaviors, and perception of consumers’ from northwestern Bosnia and Herzegovina toward food products on the market

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Abstract

Consumers in developed countries, when choosing food products, pay more attention to quality and food safety. A significant trend can be detected in the consumption of "light" products, of organic food or of food without genetically modified ingredients (GM). In contrast to these countries, Bosnia and Herzegovina (B&H) has been a country in the process of transition, and due to its recent history the state system and administration do not function properly, which also affects food market. The market has been flooded with various food products whose quality and origins can often be questioned. In recent years, as a result of European legislation, food safety has improved in the Union; however no data has been published about consumers’ attitudes and preferences in B&H. This study examined consumer attitudes, behaviors and perception in connection with food products in different markets in the northwestern part of B&H. In the autumn 2009 we examined the factors that affect consumers’ decisions when they choose a trademark or product, as well as their attitudes concerning product origin, quality and "light" or GM labels. The data were collected in several markets in two areas (Bihac and Cazin) using survey methods. The survey included 920 consumers, of which 54.4% were female. The results showed that 81.65% of examinees decided what to purchase on the basis of quality, although 56.32% of consumers didn’t know what the product quality is. 56.44% of examinees selected domestic products while 25% preferred imported products, or checked the country of production. Only 37.71% of consumers were familiar with the meaning of the label "light", and 45% of the label GM. There were statistically significant differences (ANOVA, Duncan’s post-hoc test p < 0.05) in the attitudes and behavior of consumers depending on their gender.

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1. Introduction

Bosnia and Herzegovina (B&H) is currently conducting a process of harmonization and implementation of training for the new European approach to food safety. Although burdened by political instability and very difficult established control over their markets, efforts in the system of food safety has resulted in the adoption of appropriate legislation and establishment of institutional structures, however, the market is still flooded with various food products whose quality and origins can often be questioned. The domestic capacity is largely destroyed, dominated by imports of products that are often very poor quality. Furthermore, consumers are confused by many media banners, advertising; only few programs on consumer education exist, a survey on consumer attitudes and behavior are scarce. Also, in the world during the past 20 years, food quality and food safety problems have helped undermine trust in the safety of foods (Houghton et al., 2008). In connection with this problem most often are explored and associated to the health of the population residues in food from natural (e.g. mycotoxins), environmental contaminants (e.g. heavy metals and dioxines), agro-chemicals (e.g. nitrates and pesticides), veterinary drugs, additives, substances resulting from food processing, growth promoters, packaging components, and many more (Wilcok et al., 2004). Besides, the occurrence of genetic engineering and the application of genetically modified ingredients, primarily in the food chain, as well as trade GM foods have resulted in global-scale debate on the justification for applying of these products. The biggest public attention is almost exclusively focused on the supposed risks of food derived from GMOs to the health of consumers (Lea, 2005). On the other hand, a number of evidence about connection between diet and health of the consumer growing and the consumers are becoming more aware of how important a proper diet is (Cerjak et al., 2007). Modern dietary habits are associated with the risk of diet-related chronic diseases such as cardiovascular disease, hypertension, diabetes and some types of cancer (Grunert, 2006). For example, in 2003 was recorded that the cause of death for 41% of the population (both male and females) were diseases of the circulatory system, followed by cancer (Eurostat, 2006).

Furthermore, we live in the time period when lifestyle followed the trends, and trend in dietary habit increased consumption of products with reduced fat and sugar content ("light" products), organic foods, functional foods and other product groups (Zanoli et al., 2004; Radman, 2005; Lea & Worsley, 2008).

The provided issues are covered in the new approach to food safety in a manner that is primarily changed the position of consumers, which is a new approach in focus. The new approach integrates the needs of consumers and is exclusively driven by consumer needs, says more about the management of production, and less about the products; "communicate" with the ethical, cultural, religious norms, habits, lifestyles of consumers, where customers recognize this added dimension of products - the value side of quality, which increases the stability of business, sustainability, new opportunities and/or premium prices. The consumer of modern production and trading environment expected the benefit of wide choice of goods and services, lower prices and more information. As a result of these changes, and also the risks in the market, consumers are more careful when choosing the place of purchase, product type, looking more information about products, and their behavior is defined as a complex pattern and sophisticated understanding for marketing researches, study of psychological, social and physical actions when people buy, use and dispose product, services, ideas and practices. The consumer behavior is a dynamic process, and depends on many factors, among which are social pressure, tradition, culture, personal relationships and others (Asp, 1999; Peter & Olson, 2008).

Considering that the B&H is currently in very difficult transition period and about B&H consumers are known very little, it is important to explore the attitudes and behavior of consumers in B&H towards food products, as well as on the perception of food products. This study investigated the factors that affect consumers’ decisions when they choose a trademark or product, as well as their attitudes concerning product origin, quality and "light" or GM labels.

2. Methods

2.1. Participants and procedures

The research was done in the area of northwestern B&H in the Una Sana Canton (USC) with a population of 300 000 people. Research was conducted in autumn 2009 in the two largest cities of USC, Bihać and Cazin, respectively.
Data for this study was obtained from a consumer questionnaire, in direct contact in front of 14 markets in each city. A sample of 920 consumers was obtained.

The sample of subjects was predominantly females (54.4%), average age 39.63 years, mostly with just secondary education (62.04%) and poor living standards, which is not surprising for the B&H. Average earnings in the period of study in the Federation of B&H (entities) were around 390 €, while the unemployment rate was around 44% (FZS, 2009). Table 1 shows the basic socio-demographic characteristics of the investigated consumers.

| Table 1. Socio-demographic status of the examinees |
|-----------------------------------------------|
| Sample size | 920 |
| Gender |  |
| Male | 45.6 |
| Female | 54.4 |
| Employment status |  |
| Employed full time | 54.79 |
| Unemployed | 41.75 |
| Age (average total sample) | 39.63 |
| Education of respondent |  |
| Without education | 4.33 |
| Elementary school | 12.14 |
| High school | 62.04 |
| University | 21.49 |
| Do you read the nutrition facts panel? |  |
| Always | 62.32 |
| Periodically | 17.98 |
| Rarely | 15.09 |
| Never | 4.61 |
| Average household income |  |
| Below 400 € | 47.8 |
| Between 400 and 800 € | 48.1 |
| More than 800 € | 4.1 |
| Is there in B&H Consumer Protection Act? |  |
| Yes | 33.96 |
| No | 28.30 |
| I don't know | 37.74 |

2.2. Instrumentation

Consumer questionnaire was consisted of several groups of questions. The first group was related to the socio-demographic characteristics of examinees, the second group of questions defined the attitudes of consumers according to the market place, as well as the factors that influence the decision to purchase the product, while a third group of questions was focused on consumers' attitudes toward "light" and GM products.

2.3. Data Analysis

One-way analysis of variance (ANOVA) and multiple comparisons (Duncan’s post-hoc test) were used to evaluate the significant difference of the data at p < 0.05. Data were expressed as the means values of the all analyzed responses of consumers.

3. Results and Discussion

The main problem in creating a questionnaire for consumers is the selection criteria that are taken for analysis. Due to a number of factors that affect a consumer’s decision when they choose a trademark or product, the criteria for analysis varied according to the researchers approach and are not exactly defined.

In order to reduce the number of criteria in the study on the Croatian market, Renka (2006) used factor analysis, and the results showed that it can be accepted the assumption of the existence of five criteria: location/nearness, services, trade, price, selection/product range and dynamism of the shopping mall, which are significant enough that they can explain the behavior of consumers when making decisions about the choice of stores for the purchase of everyday consumer products.

However, the point is that each of the criteria needs to be analyzed separately. The problem arises when is realized that none of the criteria either theoretically or practically can not function separately. There always exist their synergetic effects. According to the given questions to consumers in the introductory part, consumers are generally not familiar with the Consumer Protection Act, nor of their rights. B&H in 2006 have passed the Consumer Protection Act (Official Gazette, 25/06), which is compliant with European legislation, which consumers
didn't not know (66.04% of consumers said that the law does not exist). However, 53.5% consumers know that they can use their right to claim the product, and 61.1% of them know which institutions should consult.

The analysis of B&H consumers from two markets studied (Bihać and Cazin) showed that the most important criterion for selecting the place of purchase was lower priced products (Table 2), and on the second place was trademarket location. The third factor of significance related to the Cazin location/nearness was the product range, while in Bihać the quality of service was on the third place.

Table 2. Decision on the choice of purchase place in two locations according to different factors

| Factor                          | Cazin  | Bihać |
|---------------------------------|--------|-------|
| Location/nearness               | 24.000a| 21.923b|
| Lower product prices            | 34.714a| 41.692b|
| Services trade                  | 14.929a| 15.769a|
| Product range/choice            | 18.143a| 12.000b|
| Dynamism in the shopping centre | 8.214a | 8.615a |

Data are expressed as mean value all analyzed responses of consumers
The same letter in the same raw indicates no significant differences (Duncan’s test, p < 0.05)

The results show that there are statistically significant difference according to the decision on the trademarket choice of purchase (ANOVA, Duncan's post-hoc test) between two locations (Cazin and Bihać) in relation to the following factors: the place of location/nearness, lower product prices and wide product range, while the services trade and the dynamics in shopping centre was not statistically significant by location. The results of research in neighboring country Croatia showed that Croatian consumers in the selection the trademarket usually manage three criteria: price, service and store location (Renko, 2006). In making the decisions what kind of product to purchase, following impact factors were created: products packaging, producer, country of origin and product quality, and the case studies of these factors taken into account the diversity of consumers in relation to two investigated city and in relation to gender consumers (Table 3).

Table 3. Decision on the purchase of the product by gender consumers according to different factors

| Factor                  | Male      | Female     |
|-------------------------|-----------|------------|
| Products packaging      | 3.188a    | 1.204b     |
| Producer                | 5.164a    | 2.914b     |
| Country of origin       | 16.674a   | 7.807b     |
| Product quality         | 88.075a   | 74.974b    |

Data are expressed as mean value all analyzed responses of consumers
The same letter in the same raw indicates no significant differences (Duncan’s test, p < 0.05)

Both male and females at both locations were decided to purchase products on the basis of quality. The statistically significant difference between the male and female according to the location (ANOVA, Duncan's post-hoc test) were observed for all four examined factors. The statistically significant difference according to males was obtained related to the product packaging, and in the case of females the significant differences were observed for all four factors. The results showed that 56.32% of examinees do not know what the product quality is, which
indicates the high degree of ignorance, 24.84% defines quality as the "composition of the product", 5.86% as the "freshness", and 11.1% as "high-quality packaging". It was interesting to note that the 1.88% of examinees stated the old saying: "If you do not know what is good, buy what it is expensive". The consumer preferences given to domestic and imported products, shows that 56.44% of examinees selected domestic products while 25% preferred imported products, or checked the country of production.

Attitudes of consumers towards "light" products are mostly positive, but there was confusion regarding the meaning of labels for "light" products. This confusion was also presented in other countries, because the regulations define a different "light" label (Gracia et al., 2009). In B&H it is not defined by ordinance, as well is not defined in Croatia. In the area of the European Community have been constructed The Regulation on Nutrition and Health Claims made on Foods (1924/2006/EC), which aims to provide nutrition and health claims on foods, based on reliable scientific evidence so that consumers are not misled by inaccurate or confusing claims. The regulation indicates which specific nutrient and health claims can be made on packages and under what specific conditions these claims can be made. For example, the term "light" may only be made where the reduction in content is at least 30% compared to a similar product and shall be accompanied by an indication of the characteristic, which makes the food "light" (i.e., fat).

Table 4. The consumer behavior due to "light" products

| The offered answers                      | Male       | Female     |
|-----------------------------------------|------------|------------|
| The product with less fat               | 42.672a    | 41.169b    |
| The product with a lower sugar content  | 4.878b     | 5.677b     |
| The product with less fat and sugar     | 35.983a    | 38.975b    |
| The product with lower energy value     | 16.467a    | 14.179b    |

Data are expressed as mean value of all analyzed responses of consumers
The same letter in the same row indicates no significant differences (Duncan’s test, p < 0.05)

Table 4 presents the results of surveys on consumer knowledge of label "light". It is obvious that most examinees thought that "light" product was a product with reduced fat content, which is not far from the truth. However, 35.98% females and 38.97% males gave the correct answer that this is a product with reduced fat and sugar content. Of the total number of examinees, 11% buy "light" products every day, 36% once a week, and 40% once a month. Only 13% of examinees rarely buy "light" products. Mostly they consumed dairy "light" products (58.52%).

Table 5. Consumers' knowledge with the meaning of the label GM

| The offered answers                        | Male       | Female     |
|-------------------------------------------|------------|------------|
| The product with genetically modified ingredients | 44.481a    | 45.554b    |
| The product with lower price              | 25.593a    | 17.393b    |
| The dangerous product                     | 11.037a    | 18.286b    |
| Don’t know the answer                     | 18.889a    | 18.768a    |

Data are expressed as mean value of all analyzed responses of consumers
The same letter in the same row indicates no significant differences (Duncan’s test, p < 0.05)

The surprising fact was that after so many discussions about GM ingredients in food, neither half of the examinees didn’t know the meaning of the label GM (45.55% female and 44.48% of male examinees said the
correct answer). Over 50% of examinees thought that GM product is a product with a lower price or dangerous product, and the 18.8% of them didn’t know what to choose for answer (Table 5). Due to such a large number of consumers who do not know the label GM, even more troubling is the fact that 37.55% of examinees said that they didn’t buy such foods, and 37.45% didn’t know that they usually buy GM products, which makes a total of 75%. 25% of examinees were aware that genetically modified ingredients are presented in the market.

4. Conclusions

From the estimated consumer attitudes can be said that consumers of food products from the B&H market when choosing a trademark are led by two major impact factors: price and location/proximity to shops, which classifies them into the category of conventional consumers. The decision to purchase some product, consumers made on the basis of quality, however, their perception of quality is not based on knowledge of definitions of quality, but on assumptions and /or wrong perceptions of the various public info. Attitudes toward "light" products are in most cases positive, as well as the perception of the label "light", which is not the case with the GM label. Generally, consumers in most cases do not have a proper perception of food markets or about their consumer rights which leads to two main recommendations. One is focused towards food producers that needed to be more closer to the consumer, explore their needs and focus to increase consumer satisfaction in relation to their product, and the other is directed toward state institutions in the system of food safety that should be intensified to inform consumers and implement education programs especially in the field of consumer rights.

References

Asp, E.H. (1999). Factors affecting food decisions made by individual consumers. Food Policy, 24, 287–294.
Bähr, M., Botchen, M., Laberenz, H., Naspetti, S., Thelen E., & Zanoli, R. (2004). The European consumer and organic food. Organic Marketing Initiatives and Rural Development (pp. 175), Vol. 4, University of Wales Aberystwyth
Cerjak, M., Rupčić, I., & Tomić, M. (2007). Consumers behaviour regarding "light" food products on the Zagreb market. Journal of Central European Agriculture, 8, 257 – 268.
Consumer Protection Act (Official Gazette, 25/06).
Eurostat (2006). Statistics in focus. Causes of death in the EU. <http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/EN/1924/2006-010/EN/1924-06-010-EN.PDF>.
FZS/ Federal statistical office (2009). Federal statistical yearbook, www.fzs.ba.
Gracia, A., Loureiro, M.L., & Nayga, R.M. Jr. (2009). Consumers’ valuation of nutritional information: A choice experiment study. Food Quality and Preference, 20, 463–471.
Grunert, K.G. (2006). How changes in consumer behaviour and retailing affect competence requirements for food producers and processors. Economía Agraria y Recursos Naturales, 6, 3 – 22.
Houghton, J. R., Rowe, G., Frewer, L. J., Van Klee, E., Chryssochoidis, G., Kehagia, O., Korzen-Bohr, S., Lassen, J., Pfennning, U., & Strada, A. (2008). The quality of food risk management in Europe: Perspectives and priorities. Food Policy, 33, 13 – 26.
Lea, E. (2005). Beliefs about genetically modified foods: A qualitative and quantitative exploration. Ecology of Food and Nutrition, 32, 795 – 808.
Lea, E., & Worsley, A. (2008). Australian consumers’ food-related environmental beliefs and behaviours. Appetite, 50, 207–214.
Peter, J.P., & Olson, J.C. (2008). Consumer behaviour and marketing strategy. (8th ed.). New York: McGraw-Hill Companies Inc.
Radman, M. (2005). Consumer consumption and perception of organic products in Croatia. British Food Journal, 107, 263 – 273.
Regulation (EC) No 1924/2006 of the European Parliament and of the Council of 20 December 2006 on nutrition and health claims made on foods. Official Journal of the European Union L 12/3, p. 37.
Renko, S. (2006). Creating of dynamic store choice model. Ekonomski pregled, 57, 321 – 343.
Wilcock, A., Pun, M., Khanona, J., & Aung, M. (2004). Consumer attitudes, knowledge and behaviour: a review of food safety issues. Trends in Food Science & Technology, 15, 56 – 66.