

CONSUMER BEHAVIOUR ON THE MARKET OF DAIRY PRODUCTS: CASE STUDY OF SLOVAK SENIORS

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Abstract

The main objective of submitted paper was to examine consumer behavior of Slovak seniors on the market of dairy products. All necessary data and information were obtained through a questionnaire survey, which was conducted on a selected sample of respondents who were seniors aged 60 to 90 years. The questionnaire survey was carried out specifically across the Nitra region in November and December 2017. Obtained data were analyzed by using Excel and programming language for statistic R. For a deeper analysis of the data, we have formulated several scientific assumptions. The accuracy of the scientific assumptions was verified by using the Chi-Square Test of Independence, Kruskal-Walis Test, ANOVA and Mann-Whitney Test. Research proved that Slovak seniors mostly consume dairy products such as milk, sour milk products, and yogurt drinks. The main reasons for consuming these dairy products include, especially, taste, health point of view and habits. According to the frequency of consumption of their selected dairy products, most respondents consume these products more than once a week and for breakfast. We also examined the impact of the country of origin on the consumer behavior of seniors. We found out that seniors recognize the origin of the product as important factor decision-making process, regardless its price. Our research shows, that importance of factors in the decision-making process is not dependent on consumer's gender. Based on our research, we can conclude that all income groups spend the same amount on dairy products in average, but the lowest one is strongly affected by price discounts when buying dairy products.

Keywords: *Consumer, consumer behaviour, dairy products, seniors, Slovak Republic*

JEL Classification: *M 31*

Introduction

Milk products are among the most important products of livestock. These products are rich in energy, proteins, carbohydrates, cholesterol, vitamins, riboflavin, calcium and other materials that are beneficial to human health (Rahnama & Rajabpour, 2017). Rozenberg, Body, Bruyère et al. (2016) report that many countries have nutritional recommendations for 3 portions of dairy products per day, such as 1 cup of milk, 1 portion of cheese and 1 yogurt. Hatirli, Ozkan, and Aktas (2004) argue that milk is the most nutritious food for people because it contains almost all nutrients. According to vumza.sk (2018), milk is the first food we meet after birth and accompanies us all our lives. It is one of the basic foods for all age groups of the population, given the irreplaceable importance of its biological value in ensuring the proper nutrition of the population. Kurajdová, Táborecká-Petrovičová, and Kaščáková (2015) identified 4 important motives related to milk consumption. The first motive is its nutritional composition, then its beneficial effect on human health and serves as a prevention against many diseases, the third and fourth motives are the tradition and use of milk itself. Kubicová and Kádeková (2011) state that fermented milk products play an irreplaceable role in human nutrition. Fermented milk products are mostly made from cows' milk but can also be made from sheep's milk or goat's milk. According to Kearney (2010); Zingone, Bucci, Iovino, and Ciacci (2017), the problem is, that in the last few decades milk consumption has significantly decreased especially in developed countries. On the other side, authors Tolosa, Verbeke, Piepers et al. (2016) report that the consumption of milk and dairy products is increasing in developing countries. The main reason is population growth and urbanization. Kubelaková and Šugrová (2017) state that the position of milk in the food of population is a very hot topic in food discussions in the Slovak Republic. Consumption of milk in Slovakia is currently below the recommended daily doses. Milk consumption is, according to Bongard, Ruidavets, Simon et al. (2012) associated with reducing the risk of death, irrespective of the main reasons, for example, age, poor diet, other health problems, educational and socio-economic status. Kubicová and Habanova (2012) argue that the recommended dose of annual milk and dairy products is 220 kg. The current development of milk and dairy products consumption can be considered negative. In the past decade, we have observed a concave increase of

milk consumption, particularly with a higher added value of dairy products, yogurts and cheese. Consumption of milk and dairy products in the Slovak Republic ranged from 164.3 - 170 kg per capita per year between 2015 and 2016. In the long run, milk consumption per capita in Slovakia is constantly decreasing. According to dairy products, we can see an increasing trend (vuepp.sk, 2017). Košičiarová, Nagyová, and Holienčinová (2017) report that in the developed countries the consumption of these products is around 300 kg per capita. Compared to Western and Eastern Europe, the consumption of milk fermented beverages in Slovakia is about three times higher than the consumption of cheeses, which is higher twice. As state Esmerino, Ferraz, Tavares Filho et al. (2017); Reynolds and Olson (2001); Savage (2003), consumer decision making is a difficult process, and consumer choices cannot always be explained. This also applies to the purchase and consumption of foods that are influenced by sensory and non-sensory properties. Understanding consumer perception, decision making, buying is a key factor for retailers. Authors Grunert (2005); Kumar and Babu (2014) state that consumers perceive the quality of milk and dairy products of several perspectives and not only based on senses. The authors argue that regarding perceive of dairy products quality, consumers are interested in sensory attributes such as taste or aroma, health aspect, comfort attributes and process attributes (manufacturing processes such as organic, animal welfare or genetic modification, etc.). Regarding the factors influencing knowledge, attitudes, decisions about diet, Pieper, Doherr and Heuwieser (2016) include here age, gender, education, place of residence, and whether the consumer has children. According to Kubicová and Kádeková (2012), the products quality of many food products is unknown before purchase and it is not certain that we are buying a quality product. Quality can only be assessed by consumers after their consumption. As state Kubicová, Kádeková, and Dobák (2014), the purchasing power of many households currently does not allow us to satisfy demand not only for food but also for other basic products. Nagyová, Stávková, and Kádeková (2013); Kubicová, Nagyová, and Kádeková (2013) report that the quantity and price level of food and services provided by people depend mostly on the amount of disposable income. Their disposable income currently does not allow full satisfaction of demand for food. Food expenditure is an important part of this expenditure. Singh and Kathuria (2016) add that people with lower incomes generally buy low-quality, unhealthy and non-branded foods. Kubicová, Kádeková, Nagyová, and Rovný (2017) argue that consumption of fresh dairy products is the second driving force for dairy products in the EU. Consumption of cheese plays the most important role for consumers aged 18 to 65, while for children the main sources of calcium are milk and dairy products whose share increases in age groups over 65 years of age.

Data and Methods

The main objective of submitted paper was to examine consumer behavior of Slovak seniors on the market of dairy products. Primary data was obtained by conducting a questionnaire survey in Slovak Republic. The questionnaire survey was executed from November to December 2017 on a sample of 215 respondents chosen randomly. The questionnaire survey was attended by respondents – seniors aged 60 to 90 years from Nitra region. In order to ensure the representativeness of the results, we applied the random selection and geographic diversification of our respondents. The questionnaire was conducted over the personal survey and consisted of 15 questions divided into two parts, the first part consisted of classification questions through which we surveyed basic data on respondents. The second part of the questionnaire related to the issues examined. Obtained data was analyzed by using statistical programming language – R and Excel program and were applied following statistical methods: Man-Whitney Test, Chi-squared Test of Independence, ANOVA and Kruskal-Wallis Test. For deeper analysis we formulated 4 scientific assumptions:

Assumption 1: We assume the dependence of factors importance perception on gender.

Assumption 2: We assume the dependence on perception of product's origin and price.

Assumption 3: We assume the dependence between expenditures on dairy products and consumers' income.

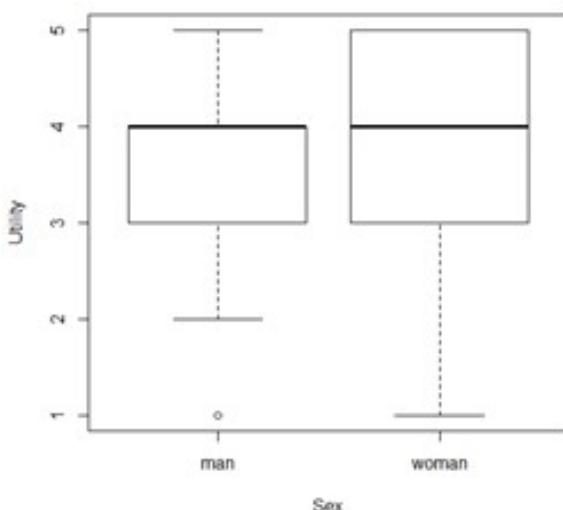
Assumption 4: We assume influence of consumers' income on perception of price discounts.

Results and Discussion

Research population is created by over 140,000 seniors living in Nitra region. The statistical sample comprises 215 respondents, who took part in the questionnaire survey during autumn months of 2017. The sample was determined on the 95% confidence level with a consideration of the confidence interval not higher than 7%. Majority of respondents were women (62,8%) and 37,2% of men took part in the survey research and the respondent's age is ranged from 60 to 90 years. The greater part of respondents (82,3%) comes from a city, the rest (17,7%) from the village. From the point of view of education, most respondents (61,8%) reached secondary education, only 12,6% finished elementary school, and the rest finished a degree in higher education.

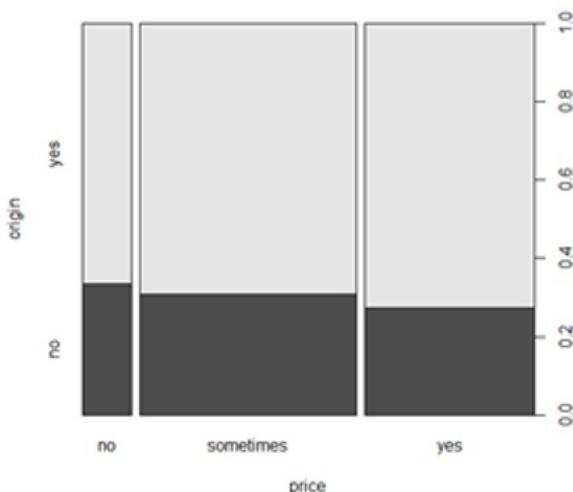
Respondents were asked to assess importance following factor affecting purchase process of dairy products on the side of the consumer: utility benefit, taste, quality, price, brand, producent, origin, advertising, recommendation, price discounts and discount offers. We have investigated if there is a difference in motivation to buy a dairy product based on gender. Using Man-Whitney Test we have found no difference based on gender except utility benefit (P-value: 0,049), which is considered of higher importance by women. According to limit P-value, we can take into account that all factors all decisive for both genders.

Figure 1 Utility benefit assessment of dairy products based on gender



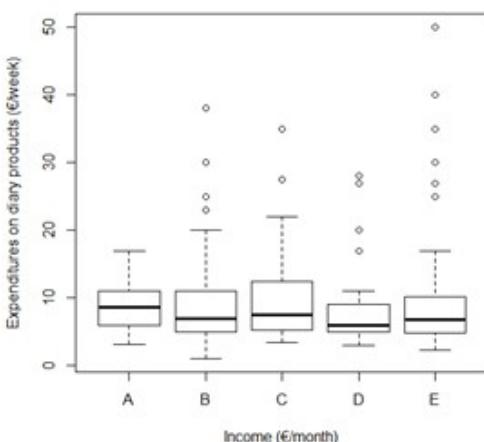
Source: Own processing, 2018.

Most respondents are aware of the country of origin when purchasing dairy products as clear from Figure 2. We can assume that seniors are influenced by the global trend of awareness of the country of origin as the very important factor in food consumption. This is underlined by finding of consumer's awareness of the product's origin regardless its price (Chi-squared Test of Independence, P-value: 0,805), which shows that consumers do not rely on a stereotyped assumption about more expensive products guaranteeing higher quality and fewer preservatives and other substances used during food processing.

Figure 2 Dependence on price and origin perception of dairy products

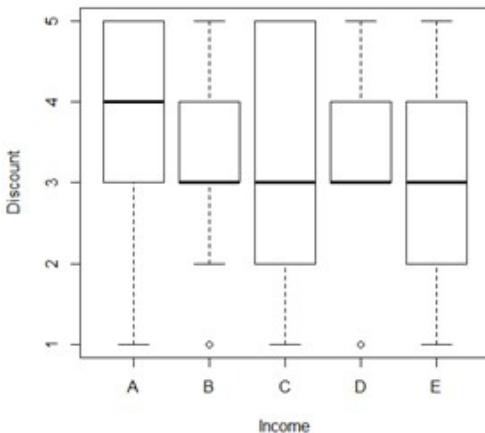
Source: Own processing, 2018.

Our research has found no relationship between senior's income and their expenditures on dairy products. Based on this finding we can claim similar expenditures among all income groups, which is underlined by ANOVA P-value 0,819. The distribution of expenditures based on respondent's income is shown by the following box plot (Figure 3).

Figure 3 Dependence of income and expenditures on dairy products

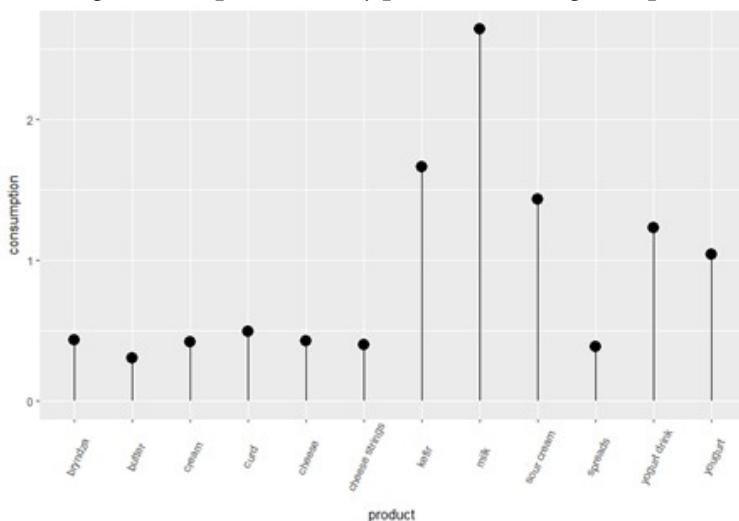
Source: Own processing, 2018.

Using Kruskal-Wallis analysis of variance (P-value: 0,008), we found the difference of price discount among income groups of respondents. As it is clear from Figure 4 mentioned dependence is caused by the higher preference of discounted products by seniors with the lowest income (Group A). However, this finding is not contradictory with the fact about the independence between income and expenditures on dairy products. Discount campaigns are many times only illusion and the special price is not always lower than the normal price of a substitute product that consumers do not take into account in this case.

Figure 4 Income influence on perception of discounted produ

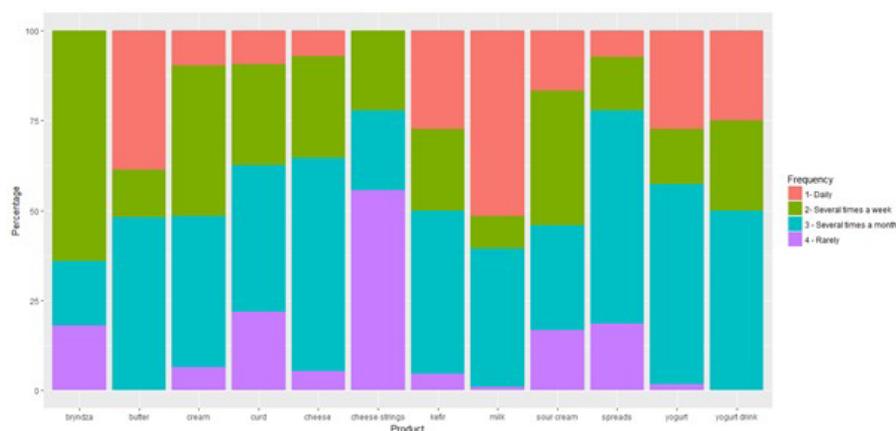
Source: Own processing, 2018.

When evaluating preferences of individual dairy products, we found that seniors consume milk, in the average 2,64kg per week. It could be caused by a wider usage of milk itself in comparison with other kinds. Fermented milk products are also preferred by seniors with average weekly consumption 1,43kg. Yogurt drinks are preferred over classic yogurts, which can be influenced by its longer the best before period and also by health aspect.

Figure 5 Average consumption of dairy products in kilograms per week

Source: Own processing, 2018.

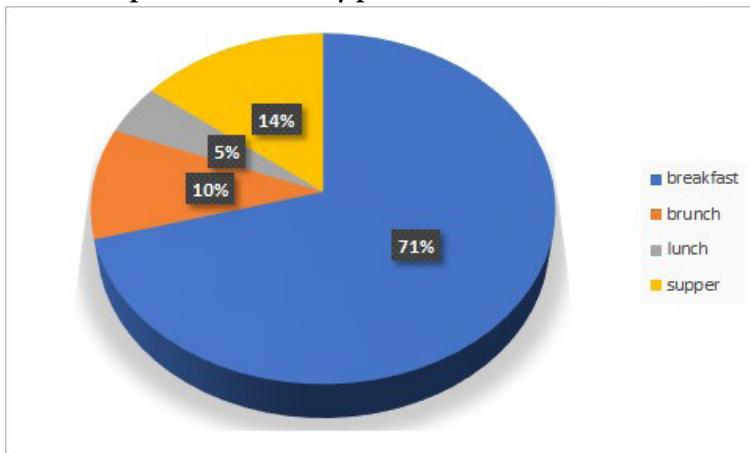
The frequency of dairy products consumption is illustrated by following Figure 6, where are shown the percentage of consumptions frequency for each product by respondents, who were asked to choose if they use the specific dairy product daily, several times a week, several times a month or rarely.

Figure 6 Consumption frequency of specific dairy products

Source: Own processing, 2018.

The questionnaire survey showed that most seniors (71%) consume dairy products for breakfast, which can be assumed as based on European habits. 14% of respondents consume the products for supper, 10% as brunch and only 5% for the lunch (Figure 7).

Figure 7 Consumption time of dairy products



Source: Own processing, 2018.

Seniors are influenced by the number of different factors when choosing a specific dairy product. We found the taste of product (which is evaluated by each consumer) as the most determining for 61,4% of respondents. As can be assumed health aspect is motivational for buying a specific dairy product (39,1%). Despite seniors are considered as the group, which can be simply influenced by various advertisement, their consumer behavior is based on habits (38,1%) in case of dairy products.

Conclusion

Our research of consumer behavior based on questionnaire survey shows that gender is not determining the perception of factors, which influence buying of dairy products. All income groups of seniors spend the same amount of money on a dairy product on average, but the lowest one searches for discounted products. The analogical research focused on the young generation was conducted by Kubelaková & Šugrová (2017). The target group of respondents was between 18 and 25 years. According to their findings, young consumers are also influenced by taste and habits as well as seniors in ours. As can be assumed, the difference

between young and older generation in case of dairy products is based on the perception of health aspects in consumption, which were more important than habits for seniors. On the other hands young do not consider health aspect as determining. Another diversity can be found in preferences for specific products. While young select mainly typical dairy products as yogurt, cheese, milk, seniors prefer milk, sour creams, and yogurt drinks. Mentioned can be the consequence of different daily lifestyle, in addition, which we can assume that seniors use dairy products also for cooking, not only ready-made consumption. Significant perception of the product's origin based on global trends is common for both groups.

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