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FACTORS INFLUENCING FUNCTIONAL FOOD AND FOOD SUPPLEMENT CONSUMPTION

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ABSTRACT
Functional foods and food supplements are two of the major classes of nutraceuticals or food-related products that have health benefits, such as improving health and prevention and treatment of disease. The aim of this present study is to introduce the main factors influencing functional food consumptions as well as food supplement consumption, searching for the answers to the following research questions: (1) What factors affect functional food and food supplement consumption and to what extent? (2) What is the most authentic source of information in customers' decision making? Results of secondary and primary researches suggest that the most important factors in decision making are: experience in earlier consumption, nutrients, quality and price. Food supplements are complex products and therefore, it is difficult for consumers to check the quality of these products at point of purchase; thus food-safety is a major issue for customers when buying food supplements. It can also be concluded that the availability and reliability of the source of information can greatly determine customer's decision making. The most authentic source of information according to customers' opinion were the following: health care professionals, sales staff and health-related articles. These variables should be taken into account for marketers and businesses when considering product development or improving communication on nutritional and health benefits of functional food and food supplements.

Keywords: food industry, decision making, source of information, food-safety

INTRODUCTION

Many areas of the food industry (food safety, food quality, food security, food logistics, etc.) around the globe are in the focus of multiple actors, and are also of high importance for the European Union. For example, it's a natural requirement of food not to have a detrimental effect on health, but to support health instead. Mapping all these areas requires scientific perspectives and related research results (BARTHA AND NÉMETH, 2016).
The food industry is also one of the most important branches of the national economies in the European Union, playing a central role for the processing of agricultural raw materials and food supply. In this industry, innovations are recognized as an important instrument for companies belonging to the food industry in order to stand out from competitors and to satisfy consumer expectations (BIGLIARDI ET AL., 2013). Markets for this category show intense competition and in order to survive, companies must carefully plan new product processes. This competitive atmosphere suffers from a lack of information and understanding of consumer attitudes and behaviour and this could lead to poor market acceptance (VERBEKE, 2005). This study presents an overview of global markets of functional food and the situation of food supplements. Moreover, the purpose of this article is to identify the basic motivators of consumers of functional food, throughout the example of consumer habits of food supplements users in Hungary.

The global market situation of functional food

Lifestyle diseases are rapidly increasing in frequency, in both developed and developing

countries due to industrialization and faulty dietary habits. (KRISHNAJA AND UKKURU, 2016).

Numerous studies in literature showed that there is an increasing popularity in the use of functional food and dietary supplements as well. DOYON AND LABRECQUE (2008) say that "a functional food is, or appears similar to, a conventional food. It is part of a standard diet and is consumed on a regular basis, in normal quantities. It has proven health benefits that reduce the risk of specific chronic diseases or beneficially affect target functions beyond its basic nutritional functions." According to CHEN (2011), a functional food is a food that "affect[s] beneficially one or more target functions of the body, beyond adequate nutritional effects, in a way that is relevant to either an improved state of health and well-being and/or reduction of risk of disease." The definition of food supplements according to the EUROPEAN COMMISSION Regulations (2002) is: "as an addition to a normal diet, food business operators, market food supplements, which are concentrated sources of nutrients (or other substances) with a nutritional or physiological effect. Such food supplements can be marketed in "dose" form, such as pills, tablets, capsules, liquids in measured doses, etc."

The market of functional foods is growing rapidly and is highly dynamic. As shown in *Figure 1*, Asia is a vast territory, led by China and Japan. The population in Japan is aging faster than in any other part of the world. Senior consumers are more interested in maintaining a healthy lifestyle, willing to spend money on products with warranty sure to be beneficial. We should also mention the Pacific Islands, which contribute to the growth of the market, despite the small percentages.

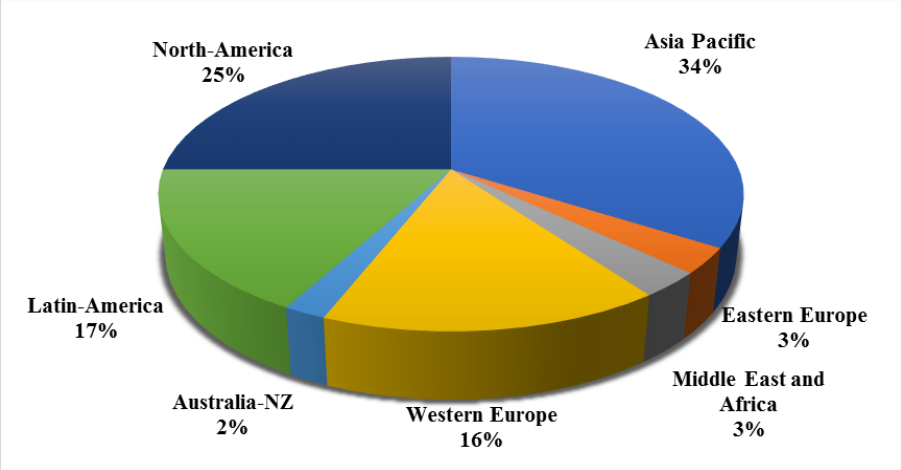

Figure 1. Percentage breakdown of total revenue worldwide
Source: EUROMONITOR, (2013) cited by VINCENTINI ET AL. (2016)

Despite being the second largest market, North America sees a decidedly unbalanced trend from 2007-08 to 2008-09 according to VINCENTINI ET AL. (2016), whereas, Latin America is considered a promising region. Finally, in the Middle East and Africa the economic and social context make the growth of these markets difficult and unstable. The demand for functional food in Europe varies considerably from country to country. Western Europe has a wide range of functional foods. The variety of functional foods is able to meet the specific needs of particular groups of consumers. This has led to the development of a profitable market, which has been relatively stable over time, with a 16% of total revenue worldwide. The leaders are: UK with 20% of total revenues, followed by Germany (14%) and France (13%) of total revenues. Spain and Italy account for 12 and 11% of total revenues respectively. In Eastern Europe, the functional food market accounts for approximately 3% of total revenues overall. Russia alone constitutes 51% of total revenues

for functional foods, followed by Poland (17%) and the Czech Republic (9%). On the other hand, for most of the other countries in Eastern Europe, the marketing of functional foods has begun or is even non-existent. So, the market of functional foods in the East European region is very fragmented and in need of a better organization and an adequate promotion in order to foster development (VINCENTINI ET AL., 2016). As for Hungary, due to Hungarians' strengthening health-consciousness, vitamins and food supplements experienced increasing demand in the last few years. According to EUROMONITOR (2016), functional foods are also present on the market and perform well, most Hungarians still place greater trust in the effectiveness of pills and tablets. The prospects of Hungarian functional food market, however, are favourable: vitamins and food supplements are expected to benefit from Hungarians' rising health-consciousness and self-medication. Moreover, stable economic conditions will contribute to growth of the category.

Influencing factors in consumption

Some studies have found a number of variables affecting the consumption and purchasing habits of consumers. These are the degree of healthiness of their diet the existence of special needs related to problems of health and nutrition information on the label (ANNUNZIATA AND PASCALE, 2009). The agro-food companies have responded to this new trend and have developed a growing variety of new products with instructions and pictures related to health: functional foods. It is not easy to understand the level of knowledge gained by the consumer in respect of these foods and the reasons behind the decision to buy/not to buy. Some studies have identified the main factors that influence the consumer's decision to purchase. Authors divide these factors into three groups: consumer characteristics (gender, age, education, lifestyle), purchasing situation and product characteristics (quality, price, safety) (BRÖRING, 2010). Other studies distinguish among sensory attributes of food (e.g. aroma or texture), physiological (e.g. hunger or appetite) and psychological factors (e.g. mood, beliefs or attitudes) (STEIN AND RODRÍGUEZCEREZO, 2008). Another study has suggested the main trends that drive the success of functional foods, such as: age, sex, education and demographic changes (URALA AND LAHTEENMAKI, 2007), the containment of health care costs (MILNER, 2000), media, access to more information, nutrition labeling (KOTILAINEN ET AL., 2006). Health claims are key factors for the development of the functional food market. They play a central role in driving purchase decisions, and help consumers make more informed food choices (ANNUNZIATA AND VECCHIO, 2012). There have been studies conducted in the past that has showed a significant difference in attitudes between male, females and different age groups (CARRILLO ET AL., 2013).

In my study I wish to map the situation in Hungary and investigate the factors influencing Hungarian consumers in food supplement consumption.

MATERIAL AND METHOD

A study was undertaken in a sample of 104 adults in Hungary (*Table 1*). Sociodemographic and health-related data were collected online using a standardized questionnaire. Questionnaire included food supplement and health-related topics. The limitations of this study have been mostly related to time and resource limitations. Respondents with a higher degree of education are overrepresented. IBM SPSS Statistics 24 was used for data processing. In the analysis, descriptive statistics and non-parametric methods were applied. Differences were considered statistically significant when $p<0.05$.

Table 1. Sample characteristics

Sample characteristics	Total	%
n	104	
Gender (n=103)		
Male	50	49
Female	53	51
Age (years) (n=104)		
18-29	8	7.7
30-39	28	26.9
40-49	28	26.9
50-59	25	24
60 +	15	14.4
Education (n=104)		
Higher education	51	49
High school	33	31.7
Secondary education without GCSE	16	15.4
Other education (primary)	2	1.9

Source: Own calculation (2016)

RESULTS

In my research, I studied, inter alia, the impact of gender on the judgement of food supplements and alternative health care food products. I conducted the non-parametric method by Mann-Whitney U test. (*Table 2*) From this data, it can be concluded that the willingness of the use of alternative health care products among women was statistically significantly higher than among men ($U=790$, $Z=-3.804$, $p<0.0001$).

Table 2. Ranks

	Gender	N	Mean Rank	Sum of Ranks
Q1. I willingly use alternative (non-medicine) health care food products.	Man	50	41.30	2065.00
	Woman	53	62.09	3291.00
	Total	103		

Source: Own calculation (2016)

Besides drawing a picture about the driving motivators of functional food consumption based on secondary sources, in my primary research I also examined the influencing factors in food supplement consumption in Hungary and I found that the driving motivator is the earlier experience in consumption, followed by quality and price (*Figure 2*). Safety was also a main factor according to customers' judgement. Advertisements and manufacturer were also important for customers, but at a less extent.

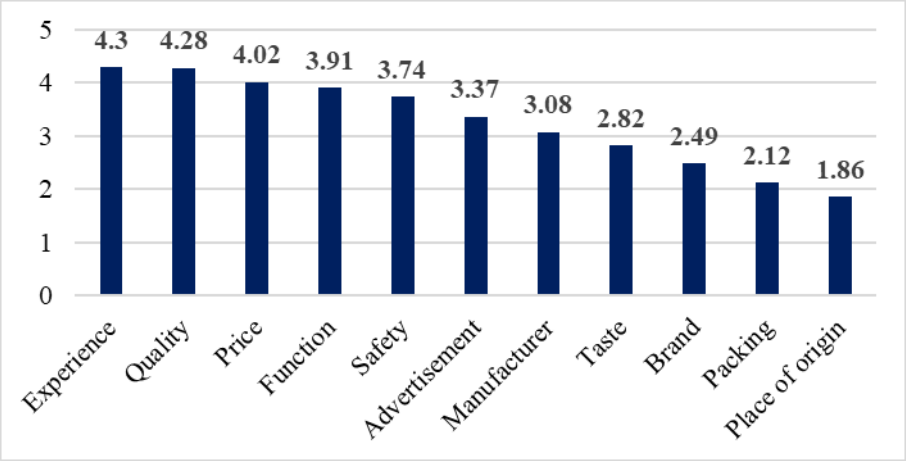

Figure 2. Driving factors in food supplement consumption
Source: Own research (2014)

Figure 3 shows the most important sources of information in decision making process. Respondents believe that the opinion of healthcare professionals (doctors, pharmacists) is the most authentic information, followed by the advices of sales persons, and then articles and TV/radio programs related to the topic. Customers obtain information from acquaintances moderately. Examining the question on basis of gender, 94% of women and 56% of men listen to health care professionals completely. Whereas, 44% of men and only 3% of women accept recommendation mostly from doctor's and pharmacist's.

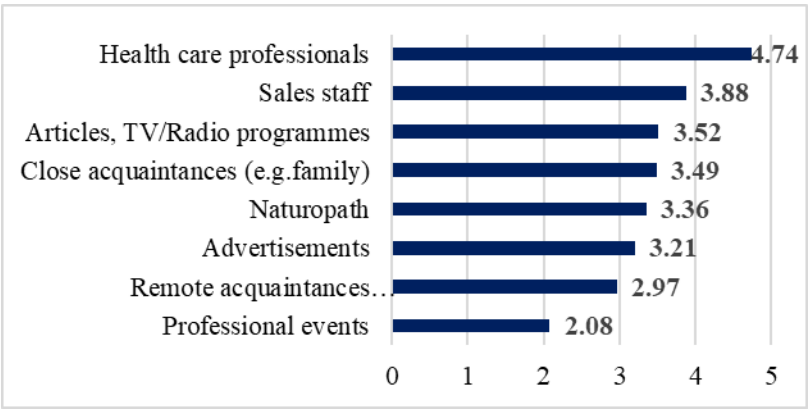

Figure 3. Source of information in decision making process
Source: Own research (2014)

CONCLUSIONS

As it is described in the chapter of Introduction, international trends showing a significant increase in the sector can also be seen in Hungary, albeit to a much less notable degree. In my study, I mapped the basic factors influencing food supplement consumption in Hungary. The consumption of functional food is influenced by several factors. Findings of my survey in Hungary show great similarity with the results of recent international literature (URALA AND LAHTEENMAKI, 2007; STEIN AND RODRÍGUEZCEREZO, 2008; BRÖRING, 2010; ANNUNZIATA AND VECCHIO, 2012; CARRILLO ET AL., 2013; KRAUS, 2015). Many of the authors emphasize the importance of labelling and a health claim as a key factor in consumption. Communication has a great impact on consumers' knowledge and attitudes. The authentic source of information is also necessary for customers in decision

making process. The results of secondary and primary research indicate that better labelling information and related knowledge perceived by consumers have critical effects on consumer trust in food supplements, which in turn will influence their attitudes and intentions to purchase food supplements. Learning about the basic motivating factors in consumption may be helpful in the development of functional food products and promotion programmes.

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