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# System Dynamics and Innovation in Food Networks 2012

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#### **Characteristics of Traditional and Novel Food Consumers**

#### Does Tradition Keep Dominance over New Trends in Food Consumption? The Example of Serbia

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#### Abstract

Consumer quantitative survey is performed on general population 18+ in Serbia at the end of September – begging of October 2010. The instrument used in this survey was a structured questionnaire consisting of several separate sections, including motivation toward food in general (Food Choice Questionnaire - FCQ), the specific questions about traditional and functional food and consumer socio-economic and demographic characteristics. The stratified three-staged random representative sample is applied (N=516). Based on reported frequency heavy traditional food consumers, who simultaneously reported lower level of functional food consumption (N<sub>T=</sub>196) and heavy functional food consumers with lower level of traditional food consumption (N<sub>F</sub>=60) are identified. A descriptive statistical analysis (parametric and non-parametric) is conducted with the aim to investigate all statistically significant differences between two consumers' group profiles.

The heavy traditional dominate over heavy functional food consumer group in Serbia. "Traditional food" in Serbia is perceived as home-made, tasty and healthy, with long heritage. Rank of motivations is very similar: after 'taste' - 'price', 'natural content' and 'health' are most frequently chosen by both consumers groups. However, the heavy traditional food consumers are more old, therefore unemployed (as retired people are considered as unemployed) and exposed to social influences. Differences in age and education between two compared consumers groups indicate possible transition of diet pattern toward more frequent functional food consumption.

Key words: Traditional Food, Functional Food, Consumption, Food Choice, Consumer Profiles, Motivation.

#### 1 Introduction

Traditional products constitute an important element of European culture, identity and heritage, which has been recognised both at political (Committee of the region 2010, Communication of the European Parliament 2011) and scientific levels. Traditional food is usually defined as a typical food of a certain locality. From the consumer science point of view, some of their most important characteristics are their local origin and their way of producing: home-made or on-farm (Ricketts et al., 2006; Vogt & Kaiser, 2008; Wilson & Fearne, 2000; Hamermesh, 2007). At the same time, the current urban diet patterns change the occasions and the frequency of consumption of the traditional food. Additionally, some consumers see traditional food as not healthy and heavy food (Giraud et al, 2011). Consequently, the functional food with novel ingredients can be seen as an opposite to the traditional food. It may be considered as a much more global food, based on the needs of the urban consumers oriented toward healthier lifestyle. Simultaneously, there is an increasing importance of health aspects in the food choices (Diplock et al 1999; Sijtsema et al.

2003, De Jong et al 2003; Niva & Mäkelä 2005). To try to understand better future evolution of the consumption of traditional vs. novel food, this paper aims to discuss the new consumption patterns based on a consumer survey conducted in Serbia.

The literature review shows extremely low scientific interest regarding traditional and novel food consumer research in the observed country. It is important to understand what consumers consider under the term traditional food and how do they perceive novel food concept in general. By the qualitative research (focus group discussion), five different concepts of traditional food are recognized in Serbia (Stojanović, Ognjanov & Filipović, 2010). In Serbia, traditional food is perceived as home-made or hand-made food, opposite to industrial products/dishes. It is prepared and consumed by many different generations and locally produced/grown. Additionally, the traditional food is exclusively produced and consumed in the country, without mentioning any export potentials. Traditional food evocates strong emotions - food of childhood, food made in village by grandmother, food consumed in a family and food connected with social events. Although we did not found any quantitative analysis on consumer attitudes and behaviour toward traditional food in the country, the qualitative research could support this paper analysis with clearly sound opinion what might be considered as traditional food in Serbia. The concept of regional food is not mentioned by any participant in the focus groups discussions. However, regional food is strongly related to GI labelling policy applied in Europe.

On the other hand, Serbian market of so called novel food (mostly considered as functional food) was initiated during mid 1990's – first in diary and than in other sectors of food industry (Stojanović, Ognjanov & Dragutinivić-Mitrović, 2010). Generally, little attention has been paid to the market analysis of functional food. Vast majority of articles about functional food have been published in medical journals by authors that have medical affiliation or medical background (Šobajić, 2002, Miletić et al., 2008). There are several theoretical articles emphasizing health benefits coming from consumption of functional food or analyzing legal environment and regulations regarding this food type (Stanković & Djordjević, 2002). A few papers analyze possible contribution of marketing and technology to the offer of food with N&H claims (Dimitrijević-Branković et al., 2002; Ristić, 2003).

Although literature review supports overall finding about lack of data on consumer behaviour towards traditional and functional food in Serbia, certain results about food choice motives are known. The most relevant factors that explain motives for food consumption in the Western Balkans (region includes Serbia) are sensory appeal, price and health. The least important are ethical concern and weight control (Miloševic et al, 2012). The authors also argue that ranking of different food choice motives yielded no significant differences between West Balkan consumers: the pattern of food choice motives seems to be strikingly similar in six observed countries (Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro and Former Yugoslav republic Macedonia).

Finally, the concepts of traditional and novel/functional food are new for consumers in Serbia. The Regulation on Geographical Indications of Origin was established in 1995 in Serbia (Official Gazette of FRY 15/1995 and 35/1995). The harmonized legislation with EU Council Regulation 2081/92, 535/97 and 510/2006, also in the line with the provisions of the World Trade Organization, Madrid and Lisbon treaty arrangement, was adopted in 2010

(Official Gazette of Republic of Serbia 18/10). However, domestic products under PGO and PGI label still can not be found at the market. Contrary, the health claims are not legally treated at all. It does not mean that functional food market is not operative (Stojanović & Dragutinović-Mitrović, 2011).

The reasons why the specific food groups are selected are twofold. The concept of traditional food can be explained from different points of view and recognized in different forms that link tradition with food consumption. On the other hand, the concept of novel food gains in importance with rising international competition within a country strongly exposed to transition processes. It is extremely interesting to obtain the differences regarding consumer motivation toward particular food products groups in Serbia, as well as to discuss differences in consumer profiles. The research aims to explain the main socio-economic and demographic factors that influence on keeping tradition in the diet pattern. Simultaneously, the analysis also indicates new trends that can reshape food consumption in a rapidly changing economy.

#### 2 The Research Methods

#### 2.1 The sampling procedure and research instrument

Consumer quantitative survey is performed on general population 18+ in Serbia. The sampling is based on the data from Census and estimated population dynamics. The stratified three-staged random representative sample is applied. The primary sampling units (PSU) are polling station territory, the secondary sampling units (SSU) are households and the tertiary sampling units (TSU) are respondents – the adult member per each chosen household. The Troldahl and Carter (1964) modification (T-C) of the Kish technique was used for data collection. The total sample was 516, whereas the valid sample for our study was 256 respondents who stated high frequency of traditional or functional food consumption.

The instrument used in this survey was a structured questionnaire consisting of several separate sections, including motivation toward food in general (Food Choice Questionnaire -FCQ), some specific questions about traditional and functional food and general consumer's socio-economic and demographic characteristics. The motivation was measured by 36 items divided into nine groups (health, mood, weight control, natural content, convenience, sensory appeal, price, familiarity and ethical concerns) on a five points' Lickert scale. Some specific questions refer to consumer understanding of traditional food. The particular questions regarding functional food refer to consumer information and scepticism. As the concept of functional food is a new on the emerging Serbian market, the respondents were previously advised on what was typically assumed under this term. Also, several examples were presented before respondents were asked to complete the survey. Consumers' socioeconomic and demographic characteristics relevant for this study includes their gender and age, level of education, number of household members, type of settlement (rural – urban), employment, height and weight - body mass index (BMI), as well as their self-assessed economic and health status. The dependent variable was self-reported frequency of consumption of the studied categories of food.

#### 2.2 The methods applied and research questions

Based on reported frequency of consumption all surveyed respondents were classified into two groups: (1) heavy traditional food consumers who simultaneously reported lower level of functional food consumption ( $N_T$ =196; (2) heavy functional food consumers with lower level of traditional food consumption ( $N_F$ =60). A descriptive statistical analysis is conducted aiming at investigating all statistically significant differences between both the heavy traditional and functional consumers' profiles. The differences between the two groups related to a number of socio-demographic and attitudinal variables were measured by parametric (One-Way ANOVA) or non-parametric (Chi Square) statistical tests.

Serbia is chosen as a transition country, which has faced rapid changes during the last decade. The overall research addresses following question: *does tradition keep dominance over new trends in food consumption?* In other words, the aim is to investigate weather significant differences between two groups of consumers in Serbia exist regarding their motives toward food choices and main socio-economic and demographic characteristics. Profiling two consumer groups (heavy traditional and heavy functional consumers) can improve understanding of contemporary food consumption patterns and their possible dynamics in Serbia. For example, if consumers of one group are older on average in comparison with consumers from the other group, this might indicate slowly transition in food consumption in the future; if the consumers of one chosen group are more educated than other, than education can be foreseen as an important factor of the food diet transition, etc.

#### 3 Results and Discussion

The results show that 'heavy traditional food consumers' dominate 'over heavy functional food consumers' group in Serbia. Almost 50% of all respondents belong to the 'heavy traditional food consumers' group. The 'high functional food consumption' reports each fifth respondent only.

As mentioned above, the meaning of "functional food" was presented to the respondents before administrating the questionnaire section regarding this food type. Such approach is appropriate because functional food consumption is still in its infancy.

Before explaining the differences in reported frequencies of consumption, it is important to find out what consumers consider under the term "traditional". Consumer perception of term "traditional food" was tested by letting respondent to choose four most important out of 17 items that best describe this concept (heritage, unpolluted environment, family, Serbia, local, special occasions, homemade, trust, everyday, small scale of production, tasty, healthy, safe, on-farm production, no additives, well-known brand and cheap). Mesured by cumulative frequencies of four most important items, consumers consider traditional food as 'home-made', 'tasty', 'family' and 'healthy' (Graph 1). However, at the first place, as the absolutely most important items, respondents list 'heritage' and 'family'. These itams are chosen as the first association on traditional food by more than 2/3 of all respondents. Contrary, the very low attention is payed to ethical concerns – 'small-scale', 'on-farm' production, 'unpolluted environment', and 'local'. According to consumers' perception, it is

obvious that "traditional food" in Serbia is perceived as home-made, tasty, healthy and with long tradition produced food.

Graph 1. Most frequently "traditional food" items - cumulative frequencies of four most important items

Everyday

Safe

Special occasions

No additives

Cheap

Unpolluted Environment

On-farm production

Small scale of production

Well-known brand

Local

In order to find out differences between heavy traditional and functional consumers in Serbia both  $N_T$  and  $N_F$  are reduced. Consumers who simultaneously stated high consumption of both foods are extracted. Consequently, the relevant sample consists of consumers who stated higher consumption of one food group than in another – e.g. the heavy traditional food profile represent consumers who reported higher traditional food consumption and simultaneously lower functional food consumption, and the heavy functional food group *visa versa*. The next subsections (3.1 and 3.2) explain significant differences between both the 'heavy consumers' groups regarding their motivation toward food consumption and socio-economic and demographic characteristics.

#### 3.1 Differences in motives toward food choices

Tasty

Homemade

Family

Healthy

Heritage

Serbia

**frust** 

The most important motivation toward food consumption is 'sensory appeal' (Table 1). It is equally applied both to heavy traditional and functional food consumption. Rank of motivations is very similar: after 'taste' - 'price', 'natural content' and 'health' are most frequently chosen. However, heavy traditional food consumers put on the second place 'price', while heavy functional food consumers most frequently choose 'natural content' as the second motive. For both consumer groups 'health' is third on the list of most important factors for food choice. The least important factors are 'familiarity', 'weight control' and 'ethical concerns' for both consumers groups.

	Heavy traditional	Heavy functional
MOTIVATION	food consumers	food consumers
Sensory Appeal	1	1
Price	2	4
Health	3	3
Natural Content	4	2
Convenience	5	6
Mood	6	5
Familiarity	7	7
Weight Control	8	8
Ethical Concern	9	9

 Table 1.

 Rank of motivations toward food consumption in Serbia, 2010

In order to find out if the significant differences exist in motivation toward traditional and functional food consumption one-way ANOVA test is applied. The results are presented in Table 1. Between two consumers groups differences in 'health' motivation, 'natural content' and 'ethical concerns' are found to be significant at 1% level. Functional food consumers are more oriented toward 'health' motive while choosing food than traditional consumers in Serbia. Simultaneously, they do care more about 'natural content' of foods. Contrary to these findings, both consumers groups do not insist on 'ethical concerns' while making food choices. Moreover, heavy traditional food consumers strongly express negative attitudes toward 'ethical concerns' – food origin, environmental protection and small-scale production. Statistically significant difference at 5% level is found in 'weight control' – expectedly, functional food consumers are more body weight control oriented.

	Traditional food	Functional food	One-way ANOVA
actor 1—Health	6,97	8,47	F=6.772***
	(4,145)	(2,949)	
Factor 2—Weight Control	6,14	7,18	F=4.035**
	(4,754)	(3,549)	
Factor 3—Natural Content	5,18	5,78	F=9.107***
	(3,789)	(3,518)	
Factor 4—Mood	5,79	6,13	F=2.477
	(2,391)	(1,918)	
Factor 5—Convenience	3,22	4,30	F=1.189
	(2,544)	(1,994)	
Factor 6—Sensory Appeal	3,73	3,95	F=1.059
	(2,163)	(2,004)	
Factor 7—Price	1,70	2,58	F=0.471
	(2,912)	(3,212)	
Factor 8—Familiarity	2,93	3,12	F=0.272
	(2,323)	(2,558)	
Factor 9—Ethical Concern	-0,34	0,97	F=7.162***
	(3,311)	(3,268)	

 Table 2.

 Differences in motivations toward food consumption in Serbia, 2010

\*Significant at 10% significant level. \*\* Significant at 5% significant level. \*\*\* Significant at 1% significant level

## 3.2 Traditional versus Novel food in Serbia – which differences between consumers' profiles?

'Heavy traditional vs. functional food consumers' profiles are described by socio-economic and demographic variables (Table 3). No differences were found regarding household numbers, type of settlement, self-assessed economic and health statuses, BMI and social influences toward functional food consumption. Differences were found in age, gender, education, employment and social influences toward traditional food consumption.

Differences in employment and social influences toward traditional food consumption are found at 1% significant level. Heavy consumers of traditional food are more unemployed than heavy functional food consumers. Due to clasification, the unemployment in our case also signifies that people are retired, and that is also linked to their age. Pensioners are more represented in the sample of heavy traditional than functional food consumer group in Serbia (32.33% and 25% respectively). However, it is equally important to emphasize the structure of unemployed heavy functional food group. It consists significantly more of pupils and students (11.66%) compared with the structure of heavy traditional food consumer group (pupils and students constitute only 3.53% of this group). The analysis also shows stronger influence of peers among heavy traditional food consumers in Serbia.

Differences in education and age between two heavy consumer groups exist at 5% significant level. In comparison with traditional food consumers, functional food consumers in Serbia are higher educated and younger on average. Uneducated (with primary school or less) are more frequently present in heavy traditional food consumers group. Additionally, this group is slightly less than 50 years old on average. An average functional food consumer is around six years younger than traditional one. In the group of educated heavy functional food consumers the college or university degree of education are more frequently present.

Variables	Definition	Heavy traditional food consumers	Heavy functional food consumers	Statistical tests
variables	Deminion		ioou consumers	Statistical tests
		Mean (standa	ard deviation)	One-way ANOVA
Age	In years	49.32	43.70	
-		(17.376)	(18.052)	F=4.886**
Household	Total number	3.33	3.05	
members		(1.797)	(1.682)	F=1.162
Self-assessed	5 point scale	3.02	3.13	
economic status	(1-min, 5-max)	( 0.847)	(0.947)	F=0.772
Self-assessed	5 point scale	3.68	3.77	
health status	(1-min, 5-max)	(sd.0.994)	(sd.0.927)	F=0.372
Body mass index	Counted based on	24.188	23.948	
(BMI)	stated weight and	(3.8115)	(3.5811)	
	height			F=4.933
Social influences	5 point scale	3.17	3.95	
functional food	(1-min, 5-max)	(0.943)	(0.775)	F=4.972
Social influences	5 point scale	4.42	4.15	
traditional food	(1-min, 5-max)	(0.829)	(0.840)	F=33.580***
		Frequenci		Parson Chi-Square
Gender	0 = male	84	18	Chi-Square
		(42.86%)	(30.00%)	3.168*
	1 = female	196	42	
		(57.14%)	(70.00%)	
Education	0 = uneducated	57	9	
	(primary school or less)	(29.1%)	(15.0%)	Chi-Square 4.761**
	1 = educated	139	51	
	(secondary	(70.9%)	(85.0%)	
	school/college or			
	university)			
Type of settlement	0 = urban	100	46	Chi-Square
		(51.02%)	(76.67%)	0.154
	1 = rural	96	14	
		(48.98%)	(23.33%)	
Employment	0 = employed	112	36	Chi-Square
	. ,	(57.1%)	(60.0%)	12.330***
	1 = unemployed	84	24	
		(42.9%)	(40.0%)	

Table 3.
Heavy traditional vs. functional food consumers profile in Serbia, 2010

\*Significant at 10% significant level. \*\* Significant at 5% significant level. \*\*\* Significant at 1% significant level

Finally, difference at 10% significant level is noticed in gender. Female respondents are more frequently represented in the heavy functional consumers group, while in the heavy traditional consumers group male respondents are slightly more represented.

 Table 4.

 Consumer profiles – the characteristics that make differences between heavy traditional and functional consumer groups in Serbia, 2010.

Heavy traditional food consumer (HTFC)	Heavy functional food consumer (HFFC)
More exposed to peers regarding TFP	Less exposed to peers regarding TFP
Unemployed*	Employed
Less educated	More educated
Older on average than HFFC	Younger on average than HTFC
More frequently male	More frequently female
* Colorado dale and la constanta da constanta	

\* Linked with age because the retired people are considered as unemployed.

The consumer profiles are summarized in Table 4. The explanation of the consumer profiles is additionally confirmed by the focus groups discussions (FGD) conducted prior to quantitative consumer survey in Serbia. Two FGD were conducted with the aim to found out broad context of consumers perceptions of traditional food in Serbia. FGD were conducted in the capital city and in the South-East Serbia during spring in 2010 (Stojanović, Ognjanov & Filipović, 2010).

For majority of the consumers, traditional food is healthy food (close to organic), and this can lead to the fulfillment of their need of healthy food, being reluctant to consume «industrial» functional food. Additionally, agricultural households are more represented in the heavy traditional food consumers group (their presence is almost 10% higher than in total population). They have producing home-made traditional products based on family tradition, without additional artificial components. Consequently, share of these products in overall diet is significant. This result can be placed in parallel to the results of the qualitative survey on functional food.

Two FGD (Mothers of children under 15 and 50+ respondents) were conducted during winter in 2009/2010 in the capital city. Consumers are more skeptical toward novel/functional food (Stojanović et al, 2010). Influence of consumers' skepticism on functional food consumption is also confirmed by other studies (Gray, 2002; Niva and Makela 2005; Saaksjrvia et al., 2009).

Additionally, consumer trust declines to some extent with age (Poppe and Kjaernes, 2003) which might have a specific influence on consumers' attitudes toward functional food in our case. However, having in mind the specific findings in Serbia, industrial products and the addition of chemical, artificial contents may provoke these cancers. Earlier findings suggest strong contradiction between the ideal of 'natural' food and 'techno-food' (Stewart-Knox and Mitchell, 2003). Consumers in Serbia insist of products naturalness and pay more attention to home made products or, at least, to shorter food distribution channel.

#### 4 Conclusion and Suggestions for further Research

The findings presented here are the first results obtained regarding main differences between traditional and functional food consumers' profiles in Serbia. For the time being, traditional food consumers still dominate over novel (functional) food consumers. However, the meaning of traditional food perceived by consumers in Serbia is highly debatable. It refers strongly to the concept of 'home-made' food which includes self-consumption of traditional products (Hamermesh, 2007). The findings support the conclusion that the heavy traditional food consumers are more aged and exposed to social influences/peers than

heavy functional consumer group. Additionally, differences in age and education between two compared consumers groups indicate possible transition in the diet pattern in the future. Functional food consumers are younger on average and better educated. Additionally, knowledge could be considered as the important factor for diet reshaping in Serbia. The further research can also contribute explanation of different meanings of term "traditional food" for different consumer groups.

The findings suggested by Milošević et al. (2012) about motives toward food choice are generally confirmed both in heavy traditional and functional food consumers groups in Serbia. Most important motives ('sensory appeal', 'price' and 'health') as well as least important factors ('ethical concerns' and 'weight control') are ranked almost in the same way. However, the significant differences are found in one of most important and one of least important motives – 'health' and 'weight control'.

The obesity is one of the crucial problems faced by transition as well as developed countries. The contemporary society struggles against the increase of certain diet related diseases. As the heavy functional food consumers are more health-oriented and take care more about their weight control, the public health policy actions toward healthier diet and lifestyle promotion could faster new trends in food consumption in Serbia. At the same time, there is a need to set-up and implement at least equivalent legislation as it exists in Europe related to food labelling about the claims related to health for the functional food. This is an important background to keep the trust of the consumers regarding the healthy food in general. The importance of this legal framework has been highlighted and deeper discussed by Stojanović and Dragutinović-Mitrović (2011).

Food marketers should also take care about the 'natural content' of functional food as consumers in Serbia do not want to leverage between "artificial" foods ingredients and the "taste" component while consuming functional food.

Regarding the traditional food, there is less consideration for their health and their weight control among the heavy traditional food consumers. An appropriate public health policy could address this issue in providing this specific group of consumers the information about the benefits of taking care on their health. The dissemination of recommendations about the importance of a balanced diet and especially the benefits of the fruits and vegetable in the diet should take place in some appropriate media for this group of consumers.

Unexpectedly, less ethical concerns in the motives for food choices is pointed out in the 'heavy traditional consumers' group. It might indicate lower potentials for regional concept promotion in the country. The concept of regional food gains in importance in the EU (Loureiro and McKluskey, 2000). The traditional food in Serbia is obviously used as a term for low marketed goods home-produced by traditional recipes. It might be considered as the important restriction for further development of the PGO and PGI scheme in Serbia.

Finally, due to high share of elderly people in the population structure in Serbia, tradition still keeps dominance over new trends in food consumption (Stojiljković, 2011). Heavy traditional food consumers are older on average, less educated and more unemployed because a part of them are retired. Additionally they are more influenced by peers and that

might indicate high social interferences. The heritage still strongly drives the food consumption toward traditional products prepared inside the family. However, younger and higher educated heavy functional food consumers indicate higher potentials for increasing the functional food consumption in the future. It is also important to emphasize the role of the female food shoppers. They take care over children and family food consumption. The more represented females in the functional food consumers group can influence changing of diet pattern toward generally healthier food consumption.

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