Food Purchasing Behavior of Consumers on Farmers' Markets: a Case Study from the Region Dunajská Streda

Pavol Kita, Patrícia Kollár

Abstract: *The purchase of foods by consumers on farmers' markets is becoming a widespread phenomenon in Slovakia. Consumers are increasingly beginning to prefer the purchase of healthy foods from farmers' markets rather than supermarkets. For this reason, the article aims to characterize the motivation of consumers to purchase goods on farmers' markets; based on selected factors. The authors have identified three hypotheses that have been verified using statistical methods. The article presents results on a sample of 435 consumers from the region Dunajská Streda. One of the results of the survey is that revenue is not a decisive factor in their willingness to purchase goods on farmers' markets.*

1 Introduction

Nowadays, there is a widespread trend of shopping for foods at farmers' markets, local markets, and marketplaces. The most popular foods there are those labelled as healthy, local and organic. Producers, or growers of fruit and vegetables, as well as big supermarket chains have embraced this trend. Chains have observed evolving changes in the consumer's behavior, which includes an increased public interest in choosing food for its local origin, its freshness, nutritional quality, and authenticity. Big supermarket chains have not only observed this significant change; they have exploited it for their benefit. Several supermarkets, such as Tesco, Kaufland, YEME and others, have already started to cooperate with local food growers. Tesco has even begun to work with local food producers in each region of their 22 branches throughout Slovakia. The cooperation lies in creating a point of sales for local producers and establishing conditions related to product ordering and distribution (SITA, 2017; Konštiak, 2007). Oths et al. (2016) have studied farmers' markets in the USA and observed their increased growth over the last period. They claim that in order to rehabilitate farmers' markets in cities, it is necessary to obtain up-to-date information about consumers' needs and customer potential in order to adapt appropriately to the local situation. The authors have chosen young adults as a target group because this group has not been studied yet. Based on the results of the research, it is evident that the most attractive farmers' markets were those organized as festivals. Oths et al. (2016) agree that making farmers' markets more attractive for future consumers could have a positive influence on future eating habits and contribute to the improved health of consumers.

Another intensely examined and interesting phenomenon is the area of sustainable consumption, which was studied by Giampetri et al. (2016). Their research was dedicated to farmers markets and their potential to promote sustainable agricultural production and consumption. Giampetri et al. offer an insight into the issue of sustainable consumption, stating that by reducing the number of participants and distances in the food chain, alternative food networks and links between farmers and consumers are supported. The research showed that consumers preferred direct contact with producers, contributing to farmer's incomes, and making environmentally responsible choices. These preferences reflect the characteristics of products that are specific to farmers' markets. Bogomolova et al. (2016) focus in their publication on global value chains which in recent years have become an increasingly rich source of traditional, as well as modern foods. Despite the fact that chains are still very popular, consumers increased their preference for local sources and food supplies as those are perceived to offer next to health also economic and community benefits. Local foods are mostly purchased in specialized stores and at farmers' markets. Supermarkets, which are interested in increasing or launch the

doc. Ing. Pavol Kita, PhD., University of South Bohemia in České Budějovice, The Faculty of Economics, Department of Trade and Tourism, Studentská 13, 370 05 České Budějovice, pkita@ef.jcu.cz

Ing. Patrícia Kollár, University of Economics, Faculty of Commerce, Department of marketing, Dolnozemská cesta 1/b, 852 35 Bratislava, kollar.patri@gmail.com

sale of local product ranges, are also making them more affordable. The authors Kita (2016), Konštiak (2007), based on their own research, have found out that attempts to link theoretically available foods in traditional markets and supermarkets are different. Hanava et al. (2015) conclude that the choice of local food stores depends on a compromise between the degree of credibility of information obtained at the store and its associated costs - especially time and comfort. According to Sullivan et al. (2013), small and medium-size producers use direct marketing and farmers' markets to find customers without the use of supply chain intermediaries, which typically increase the cost of acquiring products for consumers (Kita, Konštiak, 2009). The authors in this study identified two market segments of farmers: those who traded only with farmers' markets, and those who traded foods in cross-shops. Purchase of local foods and origin of foods were taken into consideration when buying foods. The condition "to buy local foods" played an important part in differentiating the segments of farmers' markets.

2 Methods

The questionnaire survey was aimed at consumers in the region of Dunajská Streda who shop at local markets in towns Dunajská Streda, Šamorín, Veľký Meder, and Gabčíkovo. The collection of information was carried out in the form of a personal inquiry and the data collection was carried out in the period from the 18th September 2017 to 31st October 2017. In total, 435 correctly-filled questionnaires were collected in the questionnaire survey. Respondents by gender included 181 males and 254 females.

The collected data resulting from the questionnaire survey helped to establish an objective, which is to identify and characterize the motivation of consumers who shop at farmers' markets based on the chosen factors in the region of Dunajská Streda.

To achieve the set objective, the following hypotheses were established:

1. Consumers who perceive shopping at farmers' markets as an experience have a preference for shopping at farmers markets.
2. The preference for shopping at farmers' markets is significantly linked to the preference for fresh foods
3. Shopping at farmers markets depends on the individual's income.

The validity of these hypotheses was verified by statistical tests, namely the Pearson correlation coefficient, Spearman correlation coefficient (H1, H2) and the ANOVA (H3) parameter test. The Pearson correlation coefficient was used for verifying the hypotheses H1 and H2. Pearson correlation coefficient measures the degree of linear correlation in a relationship between two randomly selected variables (parameters), when they are measured at least on the interval scale. This coefficient gets the value <1;1>. In case the Pearson correlation coefficient gets the value 0, this means that there is no relationship between the selected variables. In case the value is 1, it expresses a direct linear relationship between each other, expressing the increase of one variable caused by the increase of the second variable. If it gets the value -1, it expresses a relationship that causes a decrease in the second variable if one variable is increased. Spearman correlation coefficient was used to confirm or refute the hypotheses H1 and H2. Spearman correlation coefficient belongs to non-parametric methods using sequence variables or interval variables without normal distribution. It also acquires values in the interval <-1,1>.

To verify the third hypothesis H3 ANOVA test (ANOVA-Analysis of variance) was used. This method is based on the evaluation of relationships between variations of the compared sample sets. In order to verify the influence of one random variable for a given individual, the value of a sign, which can be observed in an individual, has a statistically significant influence. The source data was collected and evaluated in Microsoft Excel. The subsequent statistical hypotheses verification was carried out in the program SPSS.

3 Research results

The questionnaire survey was carried out on the sample which was chosen randomly in the region of Dunajská Streda. Based on the collected data it is possible to define the following socio-economic information about the questionnaire respondents.

3.1 Socio-economic information about the sample of respondents

Table 1 Respondents according to the age group

Age group	%	n
Less than 18	3%	13
18 - 25	24%	103
26 - 35	20%	85
36 - 45	18%	80
46 - 59	17%	75
60 - 75	16%	68
More than 75	3%	11

Source: Own processing

The most numerous group consists of respondents between 18 and 35 years old (in total almost a half of the respondents). The results of the research show that the most frequent visitors to local markets he customers between 18 and 35 years old, which means that the whole age spectrum was represented in the questionnaire.

Table 2 Respondents according to the income

Income	%	n
up to 380€	27%	116
381€ - 500€	20%	86
501€ - 750€	23%	98
751€ - 1000€	17%	76
1001€ - 1250€	8%	35
1251€ - 1500€	3%	14
1500€ and more	2%	10

Source: Own processing

Participants of all income groups took part in the questionnaire survey, although the income groups were not represented evenly. The largest group consists of respondents with income of up to 380 euros, which means that they are low-income respondents. The second largest group is composed of the respondents with income between 500-750 euros. The least numerous group is the respondents with income above 1,500 euros.

Table 3 Respondents according to the economically active population

EAO	%	n
unemployed	4%	16
employed	57%	249
maternity/paternity leave	4%	17
pensioner	17%	75
student	18%	78

Source: Own processing

In case of putting the respondents into groups according to the economically active population, it is clear from the table that the largest group are the employed respondents followed by the group of students and pensioners, which may explain why the largest group of respondents averaged an income lower than 380 euros.

Table 4 Respondents according to the number of family members in the household

Number of family members in the household	%	n
one	8%	36
two	25%	110
three	28%	121
four	28%	122
five	9%	38
six	1%	4
seven	1%	3
thirteen	0%	1

Source: Own processing

Most of the respondents live in families with two, three or four members, which can be seen in table 4. Based on the results in table 4, it is clear that respondents tend to live with someone else, rather than alone, which also influences their behavior at local markets.

3.2 Verification of the validity of the hypotheses

In order to achieve the main goal, three hypotheses were established, and they validity was subsequently verified.

H1. Consumers who perceive shopping at farmers markets as an experience, prefer shopping at farmers' markets.

Hypothesis 1 was verified at a level of significance 0.05 by Pearson and Spearman correlation coefficient. Hypotheses H0 and H1 were accepted to verify Hypothesis 1.
H0 = The perception of the atmosphere in the agricultural markets is unrelated to the frequency of their purchase at farmers' markets.
H1 = The perception of the atmosphere at farmers' markets is related to the frequency of their purchase at farmers' markets

Table 5 Calculation of the Pearson correlation coefficient for n=435

		X	Y
X	Pearson Correlation	1,000	0,445
	Sig. (2-tailed)		0,000
	N	435	435
Y	Pearson Correlation	0,445	1,000
	Sig. (2-tailed)	0,000	
	N	435	435

Source: Own processing

Table 6 Calculation of the Spearman coefficient for n=435

			X	Y
	X	Correlation Coefficient	1,000	0,443
		Sig. (2-tailed)		0,000
		N	435	435
	Y	Correlation Coefficient	0,443	1,000
		Sig. (2-tailed)	0,000	
Spearman's rho		N	435	435

Source: Own processing

The results show that both Pearson and Spearman correlation coefficient have similar results. Pearson correlation coefficient reaches the value 0.445. Spearman correlation coefficient has the value 0.435. The importance of these coefficients is confirmed by the calculated p-value. The calculated p-value demonstrates that H0 is rejected and H1 accepted. The results show that the Hypothesis 1 was confirmed, which demonstrates that the perception of the atmosphere at farmers' markets is linked to frequency of shopping at farmers' markets.

H2. Preference of consumer purchases at farmers' markets is significantly related to preference of food freshness

Similar to Hypothesis 1, Hypothesis 2 was also verified at a level of significance 0.05. The following were determined:
H0 = The preference of consumer purchases at farmers' markets is related to the preference of food freshness.
H1 = The preference of consumer purchases at farmers' markets is not related to the preference of food freshness.

Table 7 Calculation of Pearson correlation coefficient for n=435

		X	Y
Y	Pearson Correlation	1,000	0,535
	Sig. (2-tailed)		0,000
	N	435	435
X	Pearson Correlation	0,535	1,000
	Sig. (2-tailed)	0,000	
	N	435	435

Source: Own processing

Table 8 Calculation of Spearman correlation coefficient for n=435

			X	Y
	X	Correlation Coefficient	1,000	0,422
		Sig. (2-tailed)		0,000
		N	435	435
	Y	Correlation Coefficient	0,422	1,000
		Sig. (2-tailed)	0,000	
Spearman's rho		N	435	435

Source: Own processing

Pearson correlation coefficient has the value 0.535 in Hypothesis 2 and the value of Spearman coefficient is 0.422. It can again be observed that there is no great variation in these two correlation coefficients. The importance of these correlation coefficients is confirmed by the calculated p-value. On the basis of the p-value (approximated to 3 decimals numbers is 0,000), H0 is rejected and H1 is accepted, which means that the consumers' preference at farmers' markets is significantly related to food freshness.

H3. Shopping at farmers' markets depends on the income

When verifying the H3 hypothesis, a level of significance 0.05 was determined.
H0 = People with different incomes have the same willingness to buy at farmers' markets
H1 = People with different incomes have a different willingness to buy at farmers' markets

Table 9 Calculation for median for n=435

I prefer buying foods at farmers' markets.	Mean	N	Std. Deviation	Median
Up to 380	3,06	116	1,239	3,00
381 - 500	2,79	86	1,118	3,00
501 - 750	2,81	98	1,071	3,00
751 - 1000	2,80	75	1,166	3,00
1001 - 1250	2,69	35	1,132	3,00
1251 - 1500	3,14	14	1,292	3,00
1501 and more	2,40	10	1,075	2,00
Total	2,86	435	1,158	3,00

Source: Own processing

Table 10 Calculation of the test ANOVA for n=435

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9,901	6	1,65	1,24	0,287
Within Groups	571,823	428	1,336		
Total	581,724	434			

Source: Own processing

   The results of the statistical test ANOVA show that the p-value is 0.287, which is bigger than 0.05, therefore H0 must be rejected and H1 is accepted. Hypothesis 3 was not confirmed; therefore, it can be concluded that people with different incomes have the same willingness to shop at farmers' markets. The willingness to buy at farmers' markets is not related to income.

4 Conclusions

The achieved results show the importance of paying attention to the overall atmosphere at farmers' markets as it affects the frequency of shopping. An important finding of this study is that income as a factor of motivation does not influence people's willingness to shop at farmers' markets. Another surprising finding of this study was that income had no effect on the willingness of respondents to shop at farmers' markets. The finding that consumers who perceive shopping at farmers' markets as an experience, prefer shopping at such markets, has implications for farmers who in order to develop their local markets in the region Dunajská Streda should accentuate the involvement of their customers in the purchasing process. Farmers and small food producers should use this finding for the development of local and farmers' markets. That is also the reason why it is important that farmers and small producers offer besides their produce also offer a shopping experience that consumers are looking for. By offering, in addition to their produce, added value in the form of an experience, consumer's preferences to purchase products on farmers' markets increases. The same applies to the factor of food freshness, which is perceived to be higher than in traditional distribution channels and therefore constitutes a comparative advantage for farmers' selling on those markets. The authors agree that further research should be conducted in other regions in order to see if the same preferences are held also in other regions of Slovakia. The region Dunajská Streda is rapidly progressing with a potential to focus on the development of farmers' markets, since, based on the survey results, it is possible to state that consumers are interested in farmers' markets. Further research will focus on the farmers' and small food producers' viewpoint. The aim is to find out how, from their perspective, to develop farmers' markets that such earnings will make up a larger proportion of their income while maintaining constant contact with customers.

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