

# CONSUMER BEHAVIOR ON THE BEER MARKET IN THE SLOVAK REPUBLIC

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## ABSTRACT

Consumers have started looking for non-traditional types of beer with a specific taste and aroma usually offered by craft breweries. These breweries are characterized by brewing various beer specialties from special types of hops and yeasts. They differ from industrial breweries by brewing technology, production volume and the duration of the beer production process. This paper evaluates the development of beer consumption and describes consumer preferences with an emphasis on craft beer in the Slovak Republic. We analyzed the development of beer consumption per capita in Slovakia in the period from 2010 to 2019. For collecting data related to consumer behavior, we used a questionnaire which was realized on the sample of 281 respondents. We examined dependencies between places of beer consumption, factors affecting beer purchasing, consumer preferences with emphasis on craft beer consumption and selected demographic characteristics using different statistical methods. Domestic and foreign craft beer from small breweries is more preferred by men and by consumers living in cities with more than 20,000 inhabitants. It is most popular among respondents in the age category from 26 to 40 years. Usually, the price of craft beer is higher than the price of beer produced by industrial breweries. We assume that consumers from 26 to 40 years old are the most economically active and therefore they can afford to consume more expensive beer. Due to changes in consumer preferences and lifestyles, we anticipate an increasing interest in the consumption of craft beer. Changing consumer habits can generate new opportunities in the beer market and initiate to production of innovative products.

**Keywords:** *beer, craft beer, consumption, consumer preferences*

## INTRODUCTION

Beer is considered one of the oldest alcoholic beverages and one of the most consumed alcoholic drinks around the world. It is a fermented beverage which contains 4 basic ingredients —water, malts (and its adjuncts), yeast and hops [1]. Beer contains B vitamins which support the immune system. Other advantages of this popular beverage can be considered that it strengthens the nervous system, helps with skin and digestive problems [2]. Regular beer consumption could be a non-invasive preventive measure to prevent Alzheimer's disease and other

neurodegenerative diseases [3]. Beer is also a source of antioxidants, which play an important role in the prevention of atherosclerosis and cancer [2]. The transformations that occur during the brewing process enrich the beer with micronutrients. Beer also contains trace amounts of minerals such as calcium, iron, zinc, magnesium, phosphorus, potassium, sodium, copper, manganese, selenium, fluoride and silicon [1].

The beer industry is one of the oldest industries in Europe. In most countries, beer is one of the most widely purchased beverages. Changes in this sector have occurred with the advent of new trends in various areas. The so-called craft beer revolution is currently very often mentioned in several countries around the world. However, it is quite difficult to define the exact beginning of the revolution in some countries. The pioneers of craft brewing were often inspired by foreign countries that have a strong beer tradition or countries in which craft brewing is already developed. Inspiration at the beginning of the development of craft brewing went from east to west, but currently flow both ways [4]. Craft breweries differ from industrial breweries by the amount of production, taste, aroma and technology of brewing. The term craft brewery is used to describe a brewery which has recently begun to brew different types of beer in small quantities. Craft beer consumers consume beer because it means something to them. As a result, they build an identity that is perceived as more unique and authentic in comparison to industrial beer consumption [5]. The most important differences between craft and industrial beer are the type of malt, yeast and hops used. Craft breweries also use the possibility to apply not standardized processing conditions [6]. The situation on the Slovak beer market started to change only a few years ago. Beer consumers have stopped craving uniformly pasteurized and filtered beer and over time they began to look for beer specialties produced by craft breweries. Consumer preferences are associated with exploring new tastes, which can increase the consumption of craft beer. At present, it is possible to taste various types of beer and hundreds of draft and bottled beer specialties from all over the world in specialized places, craft breweries and pubs [7]. Craft beer includes beer styles such as IPA (India Pale Ale), APA (American Pale Ale), Porter, Stout, Weizen. The growing interest of Slovak consumers in craft beer is confirmed by the increased amount of craft breweries in the Slovak Republic.

## **MATERIAL AND METHODS**

The aim of the paper is to point out the development of beer consumption in the Slovak Republic and determine consumer preferences with an emphasis on craft beer. Data related to beer consumption in Slovakia and other European Union countries were obtained from secondary data from the Statistic report European Beer Trends 2020 Edition and previous years. The basis for examining the development of beer consumption was described by using regression. Data related to consumer behavior were obtained through a questionnaire survey in the period from March 2019 to February 2020. The aim of the questionnaire survey was to identify consumer preferences when purchasing and consuming beer. The

survey was conducted on a sample of 281 respondents from the Slovak Republic through social networks and personal meetings. We used Microsoft Excel and IBM SPSS to process the data. For fulfillment of aims of the paper, we set the following hypotheses:

- There is a dependence between the place of beer consumption and demographic characteristics (gender, age, place of residence and gross monthly income).
- There is a dependence between the factors affecting the beer purchasing and selected demographic characteristics.
- We assume that consumer preferences are influenced by respondents' age, gender, residence, and gross monthly income.

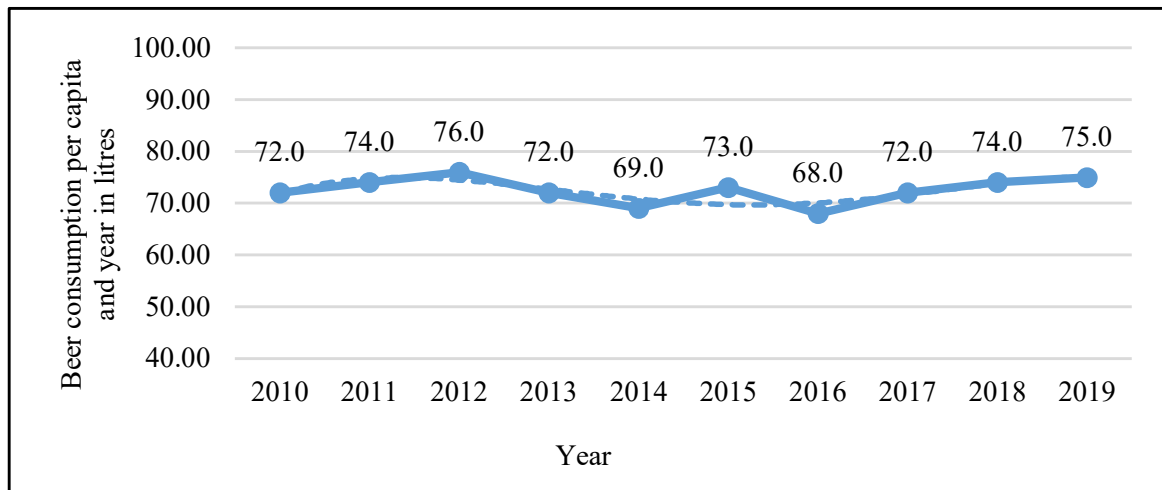
We examined these dependences by using the Chi-square and non-parametric test Kruskal-Wallis H and Mann-Whitney U.

## RESULTS

Beer consumption in the Slovak Republic in the observed period 2010-2019 was characterized by a slightly increasing tendency and the average growth coefficient was recorded at the level of 0.05% ( $k' = 0.004546$ ). Based on this, we can claim a relatively stable development of beer consumption by the population of the Slovak Republic. In the first year of the observed period, the average annual beer consumption per capita was recorded at the level of 72 liters, while in the last analyzed year its level was 75 liters. The Slovak Republic is currently in 10th place in the consumption of beer per capita in comparison with the countries of the European Union. The highest beer consumption was recorded in the Czech Republic, where the average annual beer consumption per Czech consumer is 142 liters. The second largest consumers of beer are the inhabitants of Austria, who consumed an average of 107 liters per capita in 2019. Germany is considered to be the largest beer producer in the EU and the annual consumption of beer per capita in Germany is 100 liters. We expressed the trend of the development of beer consumption in the Slovak Republic in the observed period by using a polynomial function of the 5th degree (quintic function), which is as follows:

$$q_t = 63.933 + 11.102 * t - 3.5035 * t^2 + 11.102 * t^3 - 0.0007 * t^4 - 0.0008 * t^5$$

$$R^2 = 0.6179$$

**Fig.1.** Beer consumption in Slovakia in the period 2010-2019

*Source: own processing*

In the context of the mentioned regression model and based on the analysis of beer consumption in the last 10 years, it is possible to assume a similar development in beer consumption with a view to the future. Beer consumption can be determined by favorable price relations, purchasing power of the population, new nutritional trends and lifestyles of consumers, changes in consumers' eating habits or climate change.

The development of new innovative products, the constantly expanding range of new types of beer, can also have an impact on the amount of beer consumption. In connection with this and especially with a view to the future, a change in the consumption of industrial beer can be expected by changing eating habits and growing preference for craft beer, which popularity is increasing. This type of beer is considered to be of higher quality. Craft breweries use higher quality raw materials, which is also revealed in the taste of the alcoholic beverage. In the context of beer consumption, it is important to emphasize that during the pandemic situation, lower beer consumption is expected due to the measures taken relating to gastronomic establishments. For this reason, it is necessary to raise consumer awareness of the need to consume beer, also with regard to health aspects.

Men (73%) took part in the questionnaire survey to a greater extent. More than 50% of respondents belong to the age category 26-40 years. The second most numerous group consisted of respondents from 18 to 25 years. Less than 14% of respondents from our research sample were over 41 years old. More than 57% of respondents living in cities with more than 20,000 inhabitants took part in the survey. 32% of the total number of respondents are living in the countryside. More than 92% are employed or self-employed. As for the gross monthly income of respondents, the most numerous group consists of respondents with a gross monthly income over 1500 euros, which represents 29% of the total number of respondents. Almost half, ie 48% of consumers consume alcoholic beverages

several times a week. Men most often consume alcoholic beverages several times a week, while women usually consume alcoholic beverages once a week. About 35% of respondents usually buy beer in bars and restaurants, while beer consumers, according to a survey conducted in Mexico [5], prefer to buy beer at convenience stores and supermarkets. Only about 15% of Mexican consumers buy beer at bars. Approximately 28% of Slovak consumers usually prefer to buy beer in specialized stores. The largest number of consumers prefer the consumption of beer in the bars and pubs. Almost 85% of beer consumers prefer drinking beer with friends. Research [8] carried out on Italian consumers confirms this statement. When testing the hypotheses, we recorded statistically significant differences in the answers of the respondents with respect to the place of residence and place of beer consumption. We found that consumers living in cities with more than 20,000 inhabitants prefer drinking beer at the bar and in the pub compared to consumers living in smaller cities and in the countryside. Beer consumers living in cities with less than 20,000 inhabitants most often consume beer at home. On the contrary, they consume beer the least often in a restaurant. Consumers living in the countryside is most often consume beer with friends and family. In other cases, we did not notice statistically significant differences, because the p-value was above the level of 0.05. Using a Chi-square test, we found that in our research sample there are no statistically significant differences in respondents' answers between the factors affecting the beer purchasing and selected demographic characteristics.

**Table 1.** Results of Mann-Whitney and Kruskal-Wallis test to test the dependences between the consumer preferences and demographic characteristics

	<b>Mann-Whitney test</b>	<b>p-value</b>
<b>Consumer preferences and gender</b>		
I like to drink domestic craft beer from craft breweries	5490.500	0.00004601
I like to drink foreign craft beer from craft breweries	4676.000	0.00000007
I like to drink IPA, APA	5271.500	0.00001339
I like to drink Porter, Stout	5948.500	0.00169363
	<b>Kruskal-Wallis test</b>	<b>p-value</b>
<b>Consumer preferences and age</b>		
I like to drink domestic craft beer from craft breweries	35.592	0.000000019
I like to drink foreign craft beer from craft breweries	41.922	0.000000001
I like to drink IPA, APA	26.565	0.000001704
I like to drink Porter, Stout	17.657	0.000146519
<b>Consumer preferences and place of residence</b>		
I like to drink domestic craft beer from craft breweries	12.226	0.00221413
I like to drink foreign craft beer from craft breweries	14.959	0.00056453
I like to drink IPA, APA	13.572	0.00112930
I like to drink Porter, Stout	0.980	0.61248615
<b>Consumer preferences and gross monthly income</b>		
I like to drink domestic craft beer from craft breweries	34.310	0.00000064
I like to drink foreign craft beer from craft breweries	29.089	0.00000750
I like to drink IPA, APA	22.775	0.00014043
I like to drink Porter, Stout	15.455	0.00384475

*Source: own processing*

In our consumer survey, we found that there are statistically significant differences in respondents' preferences with respect to almost all of the demographic characteristics. We did not notice a statistically significant difference only in determining the dependence between the place of residence and preference for Porter and Stout beer types. Domestic and foreign craft beer from small breweries is more preferred by men and consumers living in cities with more than 20,000 inhabitants prefer this type of beer. This may be influenced in particular by the fact that consumers in larger cities have the opportunity to choose from a wider range of craft beer. In the countryside, consumers are inclined to consume industrial beer. Craft beer from Slovakia and abroad is the most popular

with respondents in the age category from 26 to 40 years. Usually, the price of craft beer is higher than the price of beer that is produced by large industrial breweries. We can consider that this age category of respondents is most economically active and for this reason these consumers can afford to consume more expensive beer. Higher incomes stimulate not only an increase in demand for products with higher prices, but also a higher demand for diversity [4]. To the consumer, higher prices generally signify better quality or status, while lower prices signify more affordable, mass-produced beverages [9]. The finding that higher-income consumers like to consume these types of beer also tells us about this fact. Domestic craft beer produced by small breweries is preferred by consumers whose gross monthly income ranges from 900 to 1,200 €. Foreign craft beer is most preferred by consumers with a gross monthly income of over 1,500 €. This may be due, for example, to the higher price of foreign craft beer in comparison to the price of domestic craft beer. Similar findings were confirmed by research conducted in the USA, where craft beer consumers tend to have higher incomes [10]. Top-fermented beer IPA and APA are more popular by men compared to women. The same preference for the IPA style was found in a survey in Pennsylvania. These beer styles are most preferred by consumers from 26 to 40 years old. IPA and APA are most preferred in cities with more than 20,000 inhabitants due to the place of residence. Porter and Stout are preferred by consumers over the age of 41 compared to other age groups.

## CONCLUSION

Recently, there has been a dynamic development in the beer market with an emphasis on changes in the preferences of consumers, who are increasingly consuming non-traditional innovative types of beer such as craft beer. The aim of the paper was to point out the development of beer consumption in the Slovak Republic for the period 2010-2019 and the identification of consumer preferences with an emphasis on the craft beer consumption. Men consume alcoholic beverages several times a week, while women usually once a week. More men participated on the questionnaire survey compared to women and it was due to the fact that men tend to enjoy beer. We have found that there is a dependence between the place of beer consumption and the consumer's place of residence. We did not find statistically significant differences in our research sample between factors affecting beer purchasing and selected demographic characteristics. We have found that consumers living in cities with more than 20,000 inhabitants prefer to drink beer at the bar and in the pub compared to consumers living in smaller cities and in the countryside. These consumers have the greatest preferences in the consumption of domestic and foreign craft beer compared to consumers living in smaller cities and countryside. In the larger cities there are more opportunities to taste various beer styles. The consumers from these cities prefer drinking beer at the bar and pub. Craft beer consumers tend to have higher incomes. We can consider that the consumers from 26 to 40 years are the most economically active, so they can afford to consume more expensive beer. Beer styles IPA, APA, Porter and Stout are more preferred by men than women. India

and American Pale Ale are mostly preferred by consumers from 26 to 40 years. Porter and Stout are more popular among consumers in age over 41 years and less popular among the consumers from 18 to 25 years compared to other age groups. Many consumers like to try new tastes of beer and prefer quality over quantity, which creates an opportunity to produce different types of craft beer produced by small independent breweries.

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