Creating Opportunities for the Development of Craft Beer Tourism in Serbia as a New Form of Sustainable Tourism

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Abstract: Beer may not be the oldest alcoholic beverage, but it is definitely among the most popular. Its sensory preferences, habits, knowledge of the beer production process and a healthy lifestyle influence the choice of beer type, in respondents older than 18 years. Further, the goal was to investigate the extent to which craft tourism can be developed in Serbia, and to be an aid in sustainable tourism development. SPSS software, version 26.00, was used for data processing. Descriptive statistical analysis determined the average values for all items from the given research groups. The authors considered that, for determining the group of factors, which may have the strongest predictor power in predicting beer choice, the best results can be given by Binary Logistic Regression. The logarithm of chances, chances and probabilities has also been determined whether in some future period all festival visitors over the age of 18 will be chosen for craft beer instead of factory beer. The obtained results show that visitors mainly consume craft beer, and that sensory tendencies play a leading role in preserving and creating quality, as well as attracting regular consumers and visitors to craft tourism. The importance of the research is undoubtedly seen in resolving the existing doubts about the quality of beer and creating a craft tourist market in Serbia. In addition, the research can improve the measures around the creation of a recognizable identity of the Serbian beer festival, on the wider tourist market.

Keywords: craft beer; sensory preferences; sustainable tourism; Serbia

1. Introduction

Beer tourism has become an integral part of food or gastronomic tourism, but also a great chance for many countries to present a new form of sustainable tourism. Many localities known for beer production are developing tourism by emphasizing this grain drink and organizing various events where visitors can enjoy beer consumption but also learn interesting information about beer. According to Bujdoso & Szucs [1], beer tourism occupies an important place for the development of gastronomy and food and beverage culture of different countries. They also point out that the region’s culinary travels are gaining popularity around the world, and that beer tourism has become an integral part
of sustainable gastronomic tourism. Sensory analysis of beer quality, and consumer preferences are crucial for the use and further production of beer, and the creation of loyal consumers. The research of sensory quality descriptors can be used to study the type of beer taste and to achieve safety, as well as the overall quality of beer that is introduced into sales and consumption, and to reach loyal consumers [2–5]. By reviewing the available literature and research on a similar topic, the authors aimed to investigate the influence of several predictors on the choice of beer type, including the sensory preferences of beer consumers. Considering the strength of the influence of each of the factors or predictors, it is possible to predict loyalty to a particular type of beer, as well as an increase in consumers or the number of visitors who are loyal to a particular type of tourism, beer tourism.

In the area of today’s Serbia, according to some data, beer began to be made in the 5th–6th century by Slavic and Celtic tribes that migrated. The leading consumption of beer per capita, as far as European countries are concerned, is in the Czech Republic with 143 L of beer per year, Germany with 106 L, Austria with 105 L, Poland with 98 L of beer per year and Lithuania with 92 L. In 2018, Serbia ranked 43rd in the world, with 5.56 million hectoliters produced [6]. According to the data (www.statista.com, accessed on 10 May 2021), Belgrade is in the top five cities in Europe that have the lowest price of beer in restaurants, which is certainly just another advantage for the actualization of this drink in Serbian gastronomy. In the structure of personal consumption of households in the Republic of Serbia for 2018, about RSD 392 were set aside for beer per month, and even twice less for wine and other alcoholic beverages, which only goes in favor of beer being the highest consumed alcoholic beverage in Republic of Serbia. On average, 43 L of beer were consumed per household in Serbia in 2018 [7]. Breweries and their offer are considered an important part of regional production and are a great reason for tourists to visit destinations and to experiment and experience local culture [8]. As a part of gastronomic tourism, beer tourism aims to show the local culture of certain regions around the topic of beer and its production, but also to become a possible factor of sustainable tourism [9–12]. Beer tourism is often based on beer festivals, walking tours and beer tastings, with the addition of visits to specific breweries and first-hand interactions with major brewers [13–17]. Countries with a long-standing beer industry, such as Germany and Belgium, offer a variety of programs for authentic beer experiences, from Bavarian beer gardens to remote monastic breweries. Some authors point out that it is very important to single out and understand the niche of craft beer, given the annual earnings from sales, and in that way a successful offer would be made to consumers who are interested in it [18]. Therefore, their research focused on the motivation of beer tourists and determining whether beer tourists show significant differences compared to non-beer tourists. In a very interesting research called “Craft beer: penetrating a niche market”, the authors discover the success of craft beer in attracting tourists [19]. They also determined the demographic characteristics of tourists visiting craft beer workshops. According to Elzinga [20] the importance of increasing the production of craft beer is in attracting tourists. He integrates databases into Geographic Information Systems software, enabling mapping and expansion of craft beer segments across the United States. Additionally, with the help of regression analysis, he determines which factors are predictors of the future development of beer tourism, as part of gastronomic tourism. A range of topics about beer can be found in book “The Economics of Beercovers”, which presents the importance of craft beer in the economy, gastronomy, tourism, food tourism, and highlights the development of the regional beer market [21]. How consumers accept beer aromas, and certain quality descriptors and sensory acceptability of beer, was studied by Calvo-Porral [22], and she presented these results in her research entitled “A barnacle-flavored beer?: Consumer acceptance of flamboyant tastes in the brewery industry”. To examine beer taste acceptance, she built a quantitative study and analyzed the main components, using a one-way analysis of the variance test using a consumer hedonic approach based on “likes” and “dislikes”. The obtained research results indicated different patterns of preferences among consumers, emphasizing that regular beer consumers are much more tolerant of stunning tastes than casual ones. Further, the results show that the
frequency of consumption significantly affects the preferences and preferences of aromas of a particular type of beer. Further, she argues that some beer consumers who enjoy craft beer would need unique and sophisticated beer flavors to taste new experiences and eventually become loyal consumers and participants in this form of sustainable tourism. Reviewing similar research, and guided by a similar research goal, the authors visited three beer festivals in 2019: Belgrade Beer Festival, Beer Days in Zrenjanin, Novi Sad Beer Festival, during August and October 2019. The Belgrade Beer Festival lasts 5 days and is visited by about 500,000 people. Good organization, interesting music program and excellent offer of domestic and foreign beers, as well as free tickets are the main characteristics of this festival. The accolades received by this festival support our assumption. The festival was visited by about 7,680,000 people in 14 years, they were able to taste over 330 beer brands and participate in numerous social campaigns. Among the numerous awards that this festival received, the recommendation of the British newspaper “The Independent” stands out, which in 2005 included Belgrade Beer Fest among the 20 world events that should definitely be visited. Professor Dennis Wilcox, in his book “PR Strategies and Tactics”, which is used at over 350 universities around the world, cited the Belgrade Beer Fest as a positive example of marketing and PR campaigns. In 2009, the festival received the award for marketing event of the year from the marketing magazine “Taboo”. Thanks to all this, Belgrade Beer Fest has established itself as one of the most important segments of Serbia’s tourist offer. It also received the award “Best from Serbia”, which the festival edition from 2014 received in the category “Best event in the function of promoting Serbia”. Germany has Oktoberfest, and Serbia has Belgrade’s Beer Fest—one of the largest beer festivals in Southeast Europe, when the British “Independent” included it in the list of 20 world events that must be visited. The Zrenjanin Beer Festival is visited by about 300,000 people during the event, while the Novi Sad Festival is visited by about 100,000 people [23]. The aim of the research was to determine the influence of certain factors on the choice of beer type, where, as one of the factors, sensory preferences stand out. The authors conducted a survey on a total sample of 542 respondents who visited beer festivals. The questionnaire contained 45 questions, structured so that respondents stated their habits when it comes to beer consumption, then sensory preferences, a healthy lifestyle and how well they know the composition and method of beer production. The obtained results were processed with the SPSS software, version 26.00. Descriptive statistical analysis and a binary logistic model were used to determine which of the predictors could most predict the choice of beer type (craft or factory beer). The authors then proceeded to predict the logarithmic chance, chance and probability, in order to find out the chance and probability that in some future period, each of the festival visitors, older than 18, will choose craft beer instead of factory beer.

Given the marked scarcity of microbrewery research, the study provides new insights, important practical and theoretical implications, and suggests future research opportunities on determining the quality of craft beer by measuring the sensory preferences of consumers. Based on determining the sensory qualities of craft beer, it will be possible to achieve loyal consumers and visitors, which will further influence the development of a special form of sustainable tourism in Republic of Serbia, craft beer tourism. Create a niche or tourist segment that will develop from year to year, because Serbia is not known for the development of sustainable tourism, and find different solutions to increase tourist attendance, through the introduction of different forms of tourism. Examining preferences using descriptors can be a good basis and a strong tool for developing marketing messages that will have a big impact on the consumer. Research can contribute to raising awareness of the importance of these festivals in creating a broader identity in the European and world markets. For now, the festivals are recognized locally and regionally, but in the near future such and similar research will accelerate various strategic measures to improve the business of breweries and festival organization, and its retention will retain existing and attract new visitors. The research conducted by the authors in the field is of great importance to show the use of the beer festival as a potential in creating sustainable tourism
development. The largest percentage of visitors came solely for the reason of the beer festival. Very rarely did any of them state that they had visited some other parts of the city and contributed to visiting other sights. By increasing the importance of the beer festival and creating a system of sustainability, it will be possible to expand the zone of movement of visitors to other parts of the city and other sights on offer. This will create a complex inter-tourist product in the country.

2. Literature Review

2.1. Food or Gastronomic Tourism as a Possible Factor in the Development of a Form of Sustainable Tourism

Tourism has evolved over the centuries to arrive at a modern version, where thematic tourism is increasingly dominant. Types of tourism have their subtypes, so it is gastronomically divided into wine and beer, coffee, chocolate and cheese tourism [24,25]. Food and drink are a means of developing sustainable form of tourism in specific destinations. Food and drink have always been important elements of tourism and hospitality [26,27]. Food offers a unique starting point for examining the ways in which tourists return to a particular place, and the way in which destinations build identity build and transform through tourism [28]. Similar research conducted by Chang et al. [29], on a total sample of 340 respondents, investigated how food and sensory food preferences affect the re-arrival of tourists at the Bibimbab Food Festival. They came to the conclusion that food tourism significantly influences the intention to visit the festival again. This means that people who like to travel to enjoy food are very interested in visiting various food festivals. Therefore, they become faithful to this form of tourism after consumption. Some authors, in this case Ellis et al. [30], conduct research on the development of food tourism from the perspective of cultural anthropology. They are guided by the fact that a large part of the research on food tourism, cuisine, is the closest interaction with tourists. Drinking has become an important factor in food and beverage tourism. Not all tourists consume only alcohol, there are also mineral waters, fresh juices, tea and coffee. These drinks are also a motive for travelers who love food and drink and are considered part of the tourism industry [31,32]. Gastronomic tourism has other names, such as food tourism, tasting tourism or culinary tourism [33–35]. Culinary tourism is considered a search for a special experience in eating and drinking, which is long remembered. The term gastronomic tourism means travel to those destinations where local food and drinks are the main motive for attracting tourists [36,37]. The loyalty of tourists to Macako, thanks to the food on offer, has been examined by Mohi & Wong [38]. For an interesting area of research, the sensory preferences of consumers for food have been accepted by many authors [39,40]. Variables that are oriented to the development of food tourism, has been identified by Lee et al. [41]. They presented the following variables: food culture, knowledge and information about food, sensory preferences, and health-oriented variables. According to their results, 43.5% of all respondents came for food tourism, knowing in advance what it means, while 18.5% of respondents came for without knowledge of food tourism. It was found that the choice of destination takes into account the attitude, perception of behavior control and past behavior, as well as the memory of local food and traditions [42].

2.2. Craft Beer Tourism as a Recognizable Chance for Sustainable Tourism Development

Beer tourism (Beercation) is intended for beer drinkers who are looking for new tastes around the world. It involves many actors from travel agencies, chambers of commerce, ministries and educational institutions to various associations [43,44]. Producers and consumers are the most important, and they all work together to achieve mutual interests. Beer tourism has a historical, cultural, educational and hedonistic character. Such a beer boom has opened new opportunities not only for industry but also for sustainable tourism. The work of beer lovers, as well as the support of local craft breweries, gave rise to some of the most exciting hiking tours in the cantons of Bern and Argovia (for example, hiking trails that later became regular Biervandervungen in Muhlethurnen). According to the basic level
(according to the Brewers Association), there are now over 7000 breweries in the United States, and most of them rely on selling beer from their own dining room or restaurant [45]. The sale of tap beer not only comes with higher profit margins, but also creates lasting impressions on consumers, turning beer drinkers into brewery lovers. The concept of beer tourism represents a different scope of promotion and sale of various types of beer, local specialties and traditions [46]. The craft brewing revolution began in the 1970s in the United States. Craft beers differ from industrial beers in that they have creative ideas in production and experiment with flavors while corporations stick to classic recipes. So there is still a struggle between centuries-old traditions and much younger craft breweries that are doing active promotion. It is the American style that has helped to survive as much as a fifth of the total number of world breweries, of which there are a total of about 10,000 [47].

Beer tourism can be described as a dedicated visit to breweries and festivals dedicated to the promotion and sale of beer, as well as a visit to beer tastings. This creates the perception of the attributes of the beer region as the main motivating factors for visitors [48]. It must be pointed out one interesting research conducted by Plummer et al. [48], during a three-year study in Ontario, on a total sample of 2,136 respondents, in which they indicate that beer routes should be built, such as wine routes, because beer tourism is increasingly recognized as a way of presenting local products and stimulating tourist demand. Then beer producers would connect in the market and attract tourists. According to Dunn & Wickham [49], it is necessary to focus on setting up a tourism research program that has best practices in tourism and concerns the development of the beer industry and its promotion through tourism. For a more serious appearance on the tourism market, particularly food tourism, they emphasize the importance of connecting beer producers. Their research into craft brewery tourism practices in the US and the UK confirms four market-based benefits: touring breweries, tasting bars and craft beer events (which encourage consumers to visit the brewery), promoting beer brand awareness and increasing sales. The relationship between craft breweries and tourism has been explored by Alonso & Sakellarios [50]. Participants in their research realized the potential of craft beer for tourism. Most of their tests gave similar levels of agreement. They focus their research on pairing food and drink. Statistically significant differences were found based on the level of production and age of the brewery. Using the beer produced, Alonso [51] represents a special gastronomic niche of beer tourism on the market. He also emphasizes the practice of combining local craft beer and food. With his results, he points out that further work can be done on the development of beer tourism in the country. Further, he claims that research on this phenomenon, which concerns the tourism side and the connection of food tourism with the beer industry, is still limited. However, the same author, with a group of co-authors, continues to explore the potential for the development of beer tourism, as a separate form of sustainable tourism, but also as part of food tourism. They explore micro breweries operating in three countries, and the potential, opportunities and challenges of craft beer tourism [52]. Some authors point out that a significant shift in the research of beer tourism is noticeable [53]. In fact, they believe that it is the result of the craft beer revolution. They are engaged in researching perception through the appearance, motivation and challenges of entrepreneurs in craft beer. The research was conducted in South Africa, a destination where related wine tourism was developed, but which increasingly emphasizes the development of the economy of craft beer tourism. They also point out the stronger motivation of producers to develop beer tourism. Similar research was conducted by Niester [32]. His research points out that beer occupies a frequent place in the gastronomy of most regions and is an integral part of culinary and cultural tourism. Research related to the interaction of the tourism and beer sector in Bavaria, was presented by Pechlaner & Fischer [54]. They came to the result that this interaction would have to be much stronger, for the beer industry, as part of the food industry, to become a motivator for attracting tourists. In Slovakia, breweries unite in unions, in order to contribute to better tourism development [55]. Thus, they participate in establishing favorable conditions for conducting beer tourism in Slovakia. The research presented Jablonska et al. [56] also states various uses of beer and conditions
for the development of beer tourism. Authors such as Gonzales [12] find that market conditions in Latin America are favorable for tourism growth due to growth in the brewing industry, especially for craft and specialty beers. In a paper on the Beer tourism in Kentucky, McMullin et al. [19] point out that the beer is prevalent to the state’s economy and culture. They explain the importance of beer tourism for the local population. Their sample of 761 respondents in Kentucky showed the result that beer tourism is very much related to the local population as consumers, and also to their attachment to the community in Kentucky. The ravages of this form of tourism can help predict future consumer behavior and the development of that destination. A survey in North Carolina in 2011 was conducted by Kraftchick et al. [18], where their results showed that beer is a significant motivator for attracting tourists, and that there are four motivating factors: the experience of a craft brewery, enjoyment, socialization and beer consumption. In their book, Craft Beverages and Tourism, Kline et al. [57] examine the strong link between craft drinks and tourism. They also point out that the growth of breweries and distilleries in the United States must include the examination of the American beer market as a craft drink phenomenon, which has a wide significance in the development of international tourism. The importance of beer and its share in the development of food tourism or beer tourism was discussed by Cabras & Higgins [58]. A comparative analysis of two events held in the Czech Republic—the Beer Fest in Pilsen and the Valtice Wine Markets—has been made by Krajíčková & Šauer compares [59]. They put the emphasis on the main motives for coming to the festivals. They categorized the motives into the following dimensions: Taste, Experience, Social Status, Change, People, Family and Inspiration. They are researched within the socio-demographic characteristics of the festival participants.

The importance of certain food attributes and the impression that food leaves on tourists is of great importance for the development of loyalty among tourists [60–63]. The same authors point out that the results challenge the traditional view of quality attributes. They say that authenticity is very important in achieving the success of product quality, but also consumer loyalty. It is interesting to point out the research that did Camargo et al. [64], in which they emphasized the enormous importance of research into the sensory quality of food and beverages in achieving greater production and marketing. In the food industry, sensory evaluation is achieved by linking sensory properties with physical, chemical properties and changes in the production process. The Tampa Bay region is mostly visited because of its beaches and theme parks, but that it has also become a tourist destination very attractive because of craft beer [65]. Tampa Bay is a blend of creative and relational tourism that maintains a local identity, while making craft beer as the next successful form of tourism in the region. Consumer sensory preferences were also examined by Biswas & Szocs [66], who researched on certain properties of food and beverages, in order to return tourists to a given destination. They were mostly based on examining the smell of food and the impact on its consumption. Sensory preferences and beer and food pairing were examined by Harrington et al. [67]. Implications of their research apply to restaurateurs’ ability to appropriately cater their beer and pizza offerings.

The aim of the research was primarily to determine the sensory preferences of people over the age of 18 when choosing different types of beer, but also the influence of other predictors. The following hypotheses are set:

**Hypothesis 1 (H1).** Most consumers, i.e., the festival visitors consume factory beer in the original packaging.

**Hypothesis 2 (H2).** Most consumers, i.e., the festival visitors consume craft beer.

**Hypothesis 3 (H3).** Most consumers, i.e., the festival visitors give an emphasis on the sensory acceptability of beer (appearance—clarity, color, foaminess and stability of the foam; smell; taste), as one of the parameters when choosing craft beer.

**Hypothesis 4 (H4).** Habits are a strong predictor in predicting the choice of beer by consumers.
Hypothesis 5 (H5). Healthy living is a strong predictor in predicting the choice of beer by consumers.

Hypothesis 6 (H6). Knowledge of the composition and process of beer production is a strong predictor in predicting the choice of beer by consumers.

Hypothesis 7 (H7). The largest percentage of visitors come to consume beer, which will accelerate the development of craft tourism in Serbia.

3. Methodology
3.1. Operationalization
To collect information, a modified questionnaire was developed for this study, which is based on past research on food and craft beer tourism. Survey research on sensory preferences of persons older than 18 years when choosing different types of beer in the original packaging, was conducted in the period from 1 August 2019 until 17 November 2019, in the period when the three main and most visited beer festivals in the Republic of Serbia were held: Belgrade Beer Festival, Beer Days in Zrenjanin and Novi Sad Beer Festival. The research was conducted through a questionnaire that respondents filled out electronically, and one part of the respondents (167 respondents) was interviewed verbally by the interviewers. The research was done on the principle of a random sample. A sample of 542 participants was obtained. The survey questionnaire consisted of 45 questions. Respondents also filled in the “Hedonic scale”, the scale of preferences, with a grade from 1 (extremely disliked) to 9 (extremely liked), they assessed the sensory quality of the beer they most often consume. On a scale of preferences, ranging from 1 (not important to me at all) to 9 (completely important to me), the respondents also rated the degree of importance they think they have: appearance (clarity, color, foaminess and stability of the foam), smell and taste of beer. Scales up to nine intervals, practically tended to discriminate rather than shorter scales [4]. The same authors [4] also determined that a scale with eleven intervals would be even more efficient. An integral part of the questionnaire refers to the questions, answers related to “healthy” life (14 questions), habits (7 questions), as well as knowledge of beer through the production process and its composition (17 questions). This part consists of dimensions, questions taken from the scientific work of Kim & Batra [42]. Selected variables taken into consideration (physical activity, diet, alcohol and opiates, smoking, stress and safety) were measured using a five-point Likert scale on which respondents expressed their position on the extent to which they adhere to the given determinants of correct, balanced lifestyle: 1—completely incorrect, 2—partially incorrect, 3—I have no opinion/it doesn’t matter to me, 4—partially true, 5—completely true.

3.2. Measurement Model
Descriptive statistical analysis determined the arithmetic values for the given variables, as well as the standard deviations. The authors then opted for a binary logistics model in anticipation of a given variable, i.e., a decision to consume craft or factory beer. Regression is used for the purpose of describing and predicting a response or dependent variable based on a set of independent variables. If the dependent variable is binary, then logistic regression provides better results than linear, so it is used more. In practice, it often happens that the dependent variable is dichotomous, and it can take only two values (crat or factory beer). The logistic regression model belongs to the family of generalized linear models (GLM) popularized by McCullagh and Nelder in the book of the same name published in 1982. Logistic regression uses the maximum reliability method to estimate the parameters and thus relies on approximations of large samples, so a good fit of the model relies on sufficiently large samples, as a result of which logistic regression will require a larger total sample size, e.g., sample sizes greater than 400 [68]. Logistic regression does not require any special distribution form of independent variables and does not require linear relationships between independent and dependent variables. It refers to nonlinear effects even when exponential and polynomial terms are not explicitly added as complementary independent
variables, due to the logistical relationship. Probabilities are limited to a value between 0 and 1. Chances less than 1.0 represent probabilities less than 0.50. A characteristic of binary logistic regression is that it assumes the linearity of the relationship between the chance logarithms for a particular category on a binary criterion variable and the linear combination of a set of predictor variables. The logarithm of chances (logit) represents a nonlinear transformation of a criterion variable, a variable that we predict based on a combination of predictor variables. Formulas according to which the required chances and logit are calculated are as follows:

(a) \( Ch(\text{chance}) = \frac{p}{p - 1} \)  
(b) \( \text{Logit} = \ln\left(\frac{p}{p - 1}\right) \)

4. Results and Discussion

The category variables: age, education, gender, earn, and frequency of traveling, are presented with relative (%) frequency, using the program software SPSS 26.00. Out of a total of 542 respondents, 62% of them are aged 18 to 30, followed by the age of 31 to 50, which is 23%, and in the last places are respondents aged 51 to 65, 12%, and respondents with more from 65 years, 3%. The results indicate that young people aged 18 to 30 represent the largest number of samples in the survey, which is a consequence of electronic surveys, where members of this age group are most familiar with electronic technology. Of the total number of respondents, 55% completed high school. The next group in terms of number are respondents with a university degree, which makes up 25%, followed by respondents who have completed master’s studies and thus occupy 8%. Respondents who have completed high school take the next place with 6% of the total number of respondents, while respondents who have completed primary school take 5%. Very few respondents have completed doctoral studies, only 1%. Then, 49% of respondents are employed, 33% of respondents are studying, 8% of respondents are unemployed and the rest are pensioners 6% or students 4%. Regarding the monthly salary, 41% of respondents have a monthly income of less than 25 thousand dinars, 40% have an income between 25 thousand and 50 thousand dinars, 15% have an income between 50 thousand and 100 thousand dinars, while only 4% have a monthly income of more than 100 thousand dinars. The largest percentage of respondents who came to the three festivals came because of beer consumption 68.7%, because of music 24.3%, and other reasons 7%. The largest percentage of respondents from the given survey sample was from the Republic of Serbia. There is a smaller percentage of foreign visitors, which already indicates the fact that the festivals are recognized only at the local and regional level. Of the total number of survey participants, 53.4% are from the Republic of Serbia, while 46.6% are from the countries of the region (Bosnia and Herzegovina (21.3%), Montenegro (10.2%), Croatia (8.1%) and from other European countries (7%)). Due to the small percentage of visitors from other countries, a small number of overnight stays is realized, although the festivals last a total of five days.

All respondents, regardless of generational and professional affiliation, believe that the festival is an extremely important event that they would like to visit and that they would like to continue to hold. In this type of response, it is possible to see the interrelationship between the festival as a kind of event of the phenomenon and the formation of a regional local identity. Their position is that festivals may become recognizable on the European and world markets in the future (86.9% claim that festivals can become a Serbian brand, while 13.2% are indecisive in answering this question). In previous years, a certain number of visitors from Europe were recorded, but while the research lasted, most foreign visitors were from the region. The central tendency of the numerical identifiers is presented by the arithmetic mean (m), and the dispersion uses the standard deviation (sd). The distribution of numerical identifiers frequency was examined by skewness and kurtosis indicators. The reliability of the questionnaire was determined by Cronbach’s alpha coefficient. The reliability of the questionnaire was checked by Cronbach’s Alpha (must be above 0.07), and in this case, the value is \( \alpha = 0.864 \), which indicates the high reliability of the questionnaire.
4.1. Sensory Preferences

Determining the type of beer can be done on the basis of raw materials used in production, as well as the method of beer production and the type of fermentation in the production process, but also the method of conditioning the entire product and packaging [27,69]. Sensory analysis determines the way the human senses evaluate consumer products. It examines people’s subjective feeling of how a drink looks, smells, tastes and sounds, and tries to objectively measure quality. To increase the likelihood of success, beverage manufacturers can apply sensory analysis at different stages of development and scaling of their product.

Figure 1 shows the importance of beer sensory quality ranged on a scale of 1 to 9 by festival visitors or beer consumers. The sensory quality of beer plays a big role among consumers, which is indicated by the average score received by this item $m = 7.42$ (sd = 1.723).

![Figure 1. Importance of beer sensory quality. Source: authors’ research; m—arithmetic mean, sd—standard deviation. Indicate the degree of importance that you think the smell of beer has (m = 7.42; sd = 1.723).](image)

Table 1 shows the sensory preferences of festival visitors or beer consumers. On a scale of 1 to 9, they had the opportunity to indicate the degree of importance for a given item.

|                                | m     | sd    |
|--------------------------------|-------|-------|
| Significance of the visual appearance of the packaging | 5.44  | 1.497 |
| The importance of packaging material in beer selection | 6.36  | 2.480 |
| Influence of food on sensory attraction during concomitant consumption | 6.11  | 2.307 |

Source: authors’ research; m—arithmetic mean, sd—standard deviation.

Consumers most often opt for glass packaging when choosing the type of beer ($m = 7.42$), while others say that packaging is not so important to them, more precisely the average rating for the item Significance of the visual appearance of the packaging $m = 5.44$. How much the simultaneous consumption of food and beer affects the increased use of beer is shown by the item Influence of food on sensory attraction during simultaneous consumption ($m = 6.11$, sd = 2.307). Similar results were obtained by Hong et al. [68] in its research entitled “Evaluation of beer quality by sensory analysis”. Hedonic estimation and sensory profiling were combined with the help of unstructured graphic scales of 31 descriptors. Multivariate statistical methods were used to evaluate the obtained results. The average score for the group Sensory preferences is $m = 6.00$ (sd = 0.807).

The degree of importance of beer appearance (clarity, color, sparkling and stability of the foam) shown on Figure 2 ranged on a scale of 1 to 9 by festival visitors or beer
consumers, has slightly lower values of the average rating $m = 6.51$ (sd = 2.122). especially in relation to the taste (shown in Figure 4).

![Figure 2. Importance of beer appearance. Source: authors’ research; m—arithmetic mean, sd—standard deviation. Indicate the degree of importance that you consider the appearance of the beer (clarity, color, sparkling and stability of the foam) (m = 6.51; sd = 2.122).](image)

Beer smell as indicator of degree of importance shown on Figure 3 is also ranged on a scale of 1 to 9 by festival visitors or beer consumers. The beer smell is ranked by the average score received by this item ($m = 6.95$ (sd = 2.089) slightly lower than taste which leads to the fact that consumers do not completely separate the smell from the overall sense of aroma.

![Figure 3. Importance of beer smell. Source: authors’ research; m—arithmetic mean, sd—standard deviation. Indicate the degree of importance that you think the smell of beer has (m = 6.95; sd = 2.089).](image)

As mentioned earlier Figure 4 showes the highest average score on the hedonic scale of importance was in the item Degree of importance of taste on beer selection ($m = 8.15$).

### 4.2. Habits as a Determinant of Beer Type Selection

In research called Culture and Beer Preferences, which has been presented by Jill J. McCluskey and Sanatan Shreayn [70], has been shown that beer is a drink that is often consumed in a social group, where the consumer acquires certain habits and develops a taste for certain types of beer. Table 2 and Figures 5 and 6 give us an insight into the average grades for the questions that are classified in the group called Habits. It had a total of eight questions, in which festival visitors had the opportunity to give answers regarding their habits. Respondents used Likert’s five-point scale from 1 to 5. It is noticed that the
highest average score is carried by the item of frequency of beer consumption \( m = 4.59 \) (\( sd = 1.856 \)).

Figure 4. Importance of beer taste. Source: authors’ research; \( m \)—arithmetic mean, \( sd \)—standard deviation. Indicate the degree of importance that you think the taste of beer has (\( m = 8.15; sd = 1.624 \)).

Table 2. Descriptive statistics for items of habits.

| Item                                             | \( m \) | \( sd \) |
|--------------------------------------------------|---------|---------|
| I usually drink beer at home                     | 2.00    | 0.838   |
| I consume beer most often on the way out         | 2.96    | 1.455   |
| Beer is most often consumed in the afternoon and evening | 3.59    | 0.605   |
| You usually consume beer in the morning          | 2.39    | 1.276   |
| I consume beer during meals                       | 3.42    | 0.494   |

Source: authors’ research; \( m \)—arithmetic mean, \( sd \)—standard deviation.

Figure 5. Do you drink beer (\( m = 4.09; sd = 0.193 \)). Source: authors’ research; \( m \)—arithmetic mean, \( sd \)—standard deviation.

Do you drink beer was \( m = 4.09 \) (\( sd = 0.193 \)). Beer is most often consumed in the evening or afternoon, which was confirmed by the average scores for item \( m = 3.59 \), while fewer respondents decide to consume it before noon (\( m = 2.39 \)).

The lowest average grade is given to the item of beer consumption during the stay at home (\( m = 2.00 \)), which concludes that beer is the type of drink that is most often consumed on the way out or in this case at festivals (\( m = 2.96 \)). Visitors who participated in the research should certainly consume beer to the greatest extent, because that is the reason for
coming to the festival. Furthermore, less beer is consumed during meals \( (m = 3.42) \) than outside meals \( (m = 4.01) \). In general, the average score for the group of Habits questions is \( m = 4.25 \) \((sd = 0.408)\).

**Table 2.** Descriptive statistics for items of habits.

| Item                                                                 | m     | sd   |
|----------------------------------------------------------------------|-------|------|
| I usually drink beer at home                                        | 2.00  | 0.838|
| I consume beer most often on the way out                            | 2.96  | 1.455|
| Beer is most often consumed in the afternoon and evening            | 3.59  | 0.605|
| You usually consume beer in the morning                            | 2.39  | 1.276|
| I consume beer during meals                                         | 3.42  | 0.494|

Source: authors’ research; \( m \)—arithmetic mean, \( sd \)—standard deviation.

The lowest average grade is given to the item of beer consumption during the stay at home \( (m = 2.00) \), which concludes that beer is the type of drink that is most often consumed on the way out or in this case at festivals \( (m = 2.96) \). Visitors who participated in the research also prefer beer over wine during meals, which is confirmed by the average scores for item \( m = 3.42 \).

**Figure 5.** Do you drink beer \( (m = 4.09; sd = 0.193) \). Source: authors’ research; \( m \)—arithmetic mean, \( sd \)—standard deviation.

**Figure 6.** Frequency of beer consumption \( (m = 4.59; sd = 1.856) \). Source: authors’ research; \( m \)—arithmetic mean, \( sd \)—standard deviation.

### 4.3. A Healthy Lifestyle in Choosing the Type of Beer

Awareness of a healthy lifestyle influences the choice of drinks [71]. It is known that alcohol is not a healthy food. Low to moderate beer consumption (up to 1 drink per day in women, up to 2 in men), reduces the risk of cardiovascular disease. This effect is similar to that of wine, at comparable alcohol amounts, especially in epidemiological situations [72].

Table 3 gives the arithmetic values for items related to a healthy lifestyle, on the Likert scale from 1 to 5. It can be seen that the highest average grade is carried by the item I refrain from drugs or narcotics that affect mood or help me relax or I fall asleep—\( m = 3.93 \). Then, the item that generally expresses the healthy lifestyle of the respondents, and reads Do you consider yourself to be a person who respects the determinants of a healthy lifestyle, was rated \( m = 3.56 \). Respondents also use a lot of fruits and vegetables in their diet \( (m = 3.59) \), and whole foods \( (m = 2.59) \). Respondents commented on the issue of daily cigarette use, where the cut-off score was \( m = 3.17 \) \((sd = 1.835)\). One of the ways to lead a healthy life is to cope with stress, where this item took an average score of 3.18. The item of training in promoting a healthy lifestyle was rated lower, with an average score of \( m = 2.56 \). By descriptive statistical analysis, the general score for all questions in the group Healthy lifestyle is \( m = 4.71 \) \((sd = 0.674)\).

### 4.4. Knowledge of the Composition and Process of Beer Production

Author Jarrett Hart [35], in his work “Drink Beer for Science: An Experiment on Consumer Preferences for Local Craft Beer”, provides results on what influences consumers to choose a type of beer and pay more money for a better quality beer. He used hedoon analysis and found that consumers prefer locally produced beer.

The data from Table 4 show how much the respondents were instructed in the composition of the drinks they consume and the method of production. A scale from 1 to 3 was used, where the respondents could give the answer yes, not partially. The low arithmetic value or the average grade was taken by the item Hops give bitterness to beer \( (m = 1.16, sd = 0.367) \). Among the lower rated questions is the question The name of beer, depending on the color of beer, is supplemented by the words: “light”, “dark” or “black” \( (m = 1.06) \), then the question The basic raw materials used in beer production are water, barley malt, hops, brewer’s yeast, with the same average grade of 1.06. Respondents rarely read the composition and declaration of beer, and the shelf life (average grades just above 1). Whether
they know the nutritional values and whether the nutritional value is important for them is shown by the assessment given to these two items: Do you know the nutritional/energy value of the beer you most often consume m = 1.70; Is the nutritional/energy value of the beer you have decided to consume important for you (m = 1.80). How much they consider themselves connoisseurs of the recommended daily intake of beer that harms the organism is shown by the arithmetic value for that item which is m = 1.62. The question No additives, enzyme preparations and auxiliaries may be used in beer production was rated m = 1.49. The arithmetic mean for the group of questions called Knowledge of the composition and production of beer is m = 2.00 (sd = 0.179).

Table 3. Descriptive statistics for healthy lifestyle items.

| Item                                                                 | m      | sd      |
|----------------------------------------------------------------------|--------|---------|
| Do you consider yourself to be a person who respects the determinants of a healthy lifestyle? | 3.56   | 0.496   |
| I do aerobics/strength exercises 3–4 times a week (walking, running, cycling, yoga, team sports ...) | 2.66   | 1.506   |
| I exercise to get energy for the things I want to do                  | 2.56   | 1.442   |
| I consume a limited amount of meat                                    | 2.87   | 1.374   |
| I prefer to consume low-fat dairy products                            | 2.48   | 1.404   |
| I love low-fat treats                                                 | 2.43   | 1.399   |
| I consume integral products                                          | 2.95   | 1.465   |
| A significant amount of fruits and vegetables is part of my regular diet | 3.59   | 1.321   |
| I don’t consume fast food                                            | 2.24   | 1.329   |
| I use a small amount of salt in my diet                               | 2.79   | 1.309   |
| I usually take one to two alcoholic drinks a day                      | 1.97   | 1.366   |
| I refrain from medications or narcotics that affect my mood or help me relax or fall asleep | 3.93   | 1.534   |
| Daily cigarette use                                                   | 3.17   | 1.835   |
| I deal with stress very well                                          | 3.18   | 1.286   |

Source: authors’ research; m—arithmetic mean, sd—standard deviation.

Table 4. Descriptive Statistics for items of knowledge of beer production process and composition.

| Item                                                                 | m      | sd      |
|----------------------------------------------------------------------|--------|---------|
| Have you ever read the composition-declaration of beer?              | 1.34   | 0.475   |
| Do you pay attention to the shelf life of beer?                      | 1.35   | 0.480   |
| Do you know the nutritional/energy value of the beer you most often consume? | 1.70   | 0.456   |
| Is the nutritional/energy value of the beer you have decided to consume important to you? | 1.80   | 0.395   |
| Do you know what is the recommended daily intake of beer in the body, which does not harm your health? | 1.62   | 0.483   |
| Do you consider yourself to be a person who respects the determinants of a healthy lifestyle? | 1.56   | 0.496   |
| I know quite a bit about beer                                        | 1.63   | 0.481   |
| In my circle of friends, I am one of the “experts” for beer          | 1.76   | 0.425   |
| I am familiar with the categorization of beer                        | 1.63   | 0.482   |
| The basic raw materials used in beer production are water, barley malt, hops, brewer’s yeast | 1.06   | 0.246   |
| No additives, enzyme preparations or auxiliaries may be used in the production of beer | 1.49   | 0.500   |
| It is allowed to add aromas, herbs, plant extracts to beer          | 1.26   | 0.444   |
| Beer can be mixed with fruit juice, fruit nectar, refreshing soft drinks, wine, fruit wine, alcoholic beverages and strong alcoholic beverages, which meet the quality requirements | 1.34   | 0.475   |
| The name of the beer, depending on the color of the beer, is supplemented by the words: “light”, “dark” or “black” | 1.09   | 0.299   |
| EBC (International Unit for Measuring the Bitterness of Beer) is an abbreviation of the term International Beverage Units | 1.36   | 0.482   |
| EBC is a European color unit for use in the brewing industry         | 1.32   | 0.467   |
| Hops give bitterness to beer                                         | 1.16   | 0.367   |

Source: authors’ research; m—arithmetic mean, sd—standard deviation.
4.5. Identifying Key Predictors in Predicting Beer Type Selection

The research showed a larger percentage of those who opt for craft beer, about 357 respondents (65.9%), compared to respondents who opt for factory beer 185 respondents (34.1%).

Binary logistic regression is possible only with those respondents who have data on all variables that participate in it, more precisely only if there are no missing cases. The Block 0 output includes only the intercept (which SPSS calls the constant). We see that there are 542 cases used in the analysis (Table 5).

Table 5. Case Processing Summary.

| Unweighted Cases * | N     | Percent |
|-------------------|-------|---------|
| Selected Cases    |       |         |
| Included in Analysis | 542  | 100.0   |
| Missing Cases     | 0     | 0       |
| Total             | 542   | 100.0   |
| Unselected Cases  | 0     | 0       |
| Total             | 542   | 100.0   |

* If weight is in effect, see classification table for the total number of cases.

Binomial logistic regression estimates the probability of an event (in this case, whether most of them will choose craft beer). Table 6 has a subscript which states, “The cut value is 0.500”. This means that if the probability of a case being classified into the “yes” category is greater than 0.500, then that particular case is classified into the “yes” category. Otherwise, the case is classified as in the “no” category.

Table 6. Classification Table a,b.

| Observed | Predicted Type of Beer | Percentage Correct |
|----------|------------------------|--------------------|
|          | CRAFT | FABRIC   |                  |
| TYPE OF BEER |       |          |                  |
| Step 0   |       |          |                  |
| CRAFT    | 357   | 0        | 100.0             |
| FABRIC   | 185   | 0        | 0                 |
| Overall Percentage | 65.9 |

a Constant is included in the model. b The cut value is 0.500.

Dependent Variable Encoding indicates the values that the program proposes for coding the categories of the criterion variable—Internal Values. Thus, the program would encode the values of the mentioned two categories in a suitable form (values: 0 and 1) independently of us. In this case Craft beer uses Interval value 0, while factory beer Interval has value 1. In addition, for the categorical variable gender, coded and frequency values for 319 men and 223 women are shown in Table 7.

Table 7. Crosstabulation—selection of beer type in relation to gender.

| Gender | Type of Beer | Total |
|--------|--------------|-------|
|        | CRAFT | FABRIC |       |
| male   | Count | 221 | 98 | 319 |
| % within Gender | 69.3% | 30.7% | 100.0% |
| female | Count | 136 | 87 | 223 |
| % within Gender | 61.0% | 39.0% | 100.0% |
| Total  | Count | 357 | 185 | 542 |
| % within Gender | 65.9% | 34.1% | 100.0% |
Table 8, which still belongs to Block 0, shows what the response chances are for Craft beer, relative to the factory beer response, before introducing predictor variables into regression. This coefficient can be obtained by dividing the number of empirically obtained answers of craft beer, by the number of empirically obtained answers of factory beer, without taking into account the predictor variables. There is a statistical significance \( p < 0.05 \), with a degree of deviation of 1. Under Variables in the Equation you see that the intercept-only model is \( \ln(\text{odds}) = -0.657 \). If we exponentiate both sides of this expression we find that our predicted odds [\( \exp(B) \)] = 0.518. That is, the predicted odds of deciding which bear to choose is 0.684.

### Table 8. Variables in the Equation.

| Step 0 | B       | S.E. | Wald   | df  | Sig. | Exp(B) |
|--------|---------|------|--------|-----|------|--------|
| Constant | -0.657 | 0.091 | 52.659 | 1   | 0.000 | 0.518  |

Source: authors’ research.

Table 9 contains the results of testing the null hypothesis, according to which the population logistic coefficients of all predictor variables that are inserted into the model in Block 1 are equal to zero: \( H_0: \beta_j = 0 \), for each \( j \), \( H_0: \exp(\beta) = e^0 = 1 \). The omnibus test tells whether the prediction of the goal is statistically significant, that all logistic coefficients for all predictor variables are equal to zero. The test of statistics that serves to determine the statistical significance of the obtained results is the Chi square \( (X^2) \) which provided that the null hypothesis is true, and thus has a Chi-square distribution. In our case, it is 33,903. The Significance column shows the probability that a random sample will produce as many or more \( x^2 \) statistics as long as the null hypothesis is correct. The table also shows the statistical significance of the model, as well as the predictors entered into the research (Block 1). The value \( \text{Sig} \) is read from the Table 9 \( (p = 0.00) \) which is less than 0.05 and, therefore, the obtained \( x^2 \) is statistically significant and the null hypothesis is rejected. Thus, predictor variables have a statistically significant effect on the criterion variable.

### Table 9. Omnibus Tests of Model Coefficients.

| Step 1 | Chi-Square | df | Sig. |
|--------|------------|----|------|
| Step   | 33.903     | 4  | 0.000|
| Block  | 33.903     | 4  | 0.000|
| Model  | 33.903     | 4  | 0.000|

Source: authors’ research.

The Hosmer-Lemeshow test analyzes the null hypothesis, so that the predictions in that model fit in with the observed factors as much as possible. The cases were ranked according to the predicted probability on a criterion variable, after which they were divided into ten groups of approximately equal size. Each quantity must be compared in relation to the predicted probability of the observed event. It is necessary to calculate the Chi-squares by comparing the given frequencies with those expected in the binary linear model. By passing an irrelevant chi-square means that the data fit the model well. For large sample sizes, the test can be significant, even when it fits well. For small sample sizes, this may not be significant, even if it does not fit well.

Table 10 also contains the Cox & Snell R Square and Nagelkerke R Square values. Both models are explained for variation calculations. Very often the given values are called pseudo \( R^2 \) values (and will have lower values than in multiple regression) but are interpreted in the same way. Reading the values from the table, we see that this \( R^2 = 0.840 \) which is a significant contribution of the variable of predictor variables. The explained variation in the dependent variable based on our model ranges from 61.0% to 84.0%, depending on whether you reference the Cox & Snell \( R^2 \) or Nagelkerke \( R^2 \) methods,
respectively. The Cox & Snell $R^2$ can be interpreted like $R^2$ in a multiple regression, but cannot reach a maximum value of 1. The Nagelkerke $R^2$ can reach a maximum of 1.

### Table 10. Hosmer and Lemeshow Test and Cox & Snell R Square and Nagelkerke R Square values.

| Step | Chi-Square | df | Sig.  | 2-Log Likelihood | Cox & Snell R Square | Nagelkerke R Square |
|------|------------|----|-------|------------------|---------------------|---------------------|
| 1    | 15.258     | 8  | 0.054 | 661.930          | 0.610               | 0.840               |

*Estimation terminated at iteration number 4 because parameter estimates changed by less than 0.001.*

We could focus on error rates in classification, which can be seen in Table 11. The table shows a percentage of accuracy of 97.8% for the selection of craft beer, and 6.5% for factory beer. The overall percentage is 66.6%.

### Table 11. Classification Table *

| Observed | CRAFT | FABRIC | Percentage (%) Correct |
|----------|-------|--------|------------------------|
| Step 1   |       |        |                        |
| CRAFT    | 349   | 8      | 97.8                   |
| FABRIC   | 173   | 12     | 6.5                    |
| Overall  |       |        | 66.6                   |

*Observed

*Predicted

*The cut value is 0.500.

Table 12 shows the contribution of each independent variable to the model and its statistical significance. Table 12 contains in column B the estimates of logistic coefficients for the model with predictors. The abbreviated designation B means the partial contribution of the individual variables. In this case, in the Constant part there is a coefficient b0, and in the row that begins with the name of a certain predictor variable. Based on the logistic coefficients, we can only predict whether the influence of the predictor on the criterion variable is positive or negative (by simply reading the sign of this coefficient), whether increasing the value of the predictor reduces or increases the chance of a category that is of critical interest in relation to that other category of the binary criterion variable. The Wald test is used to determine statistical significance for each of the independent variables. The statistical significance of the test is found in the “Sig.” column. It can be observed that the sensory factor ($p = 0.00$), habits ($p = 0.07$), knowledge ($p = 0.02$), and gender ($p = 0.03$), added significantly to the model/prediction. We can use the information in the “Variables in the Equation” table to predict the probability of an event occurring based on a one-unit change in an independent variable when all other independent variables are kept constant.

### Table 12. Variables in the Equation.

| B | S.E. | Wald | df | Sig. | Exp(B) | 95% C.I. for Exp(B) |
|---|------|------|----|------|--------|---------------------|
|   |      |      |    |      |        | Lower              | Upper |
| Sensory preferences | $-0.014$ | 0.102 | 0.018 | 1 | 0.004 | 0.987 | 0.808 | 1.204 |
| Habits | 0.499 | 0.186 | 7.174 | 1 | 0.007 | 1.648 | 1.143 | 2.374 |
| Health | $-0.061$ | 0.143 | 0.179 | 1 | 0.672 | 0.941 | 0.711 | 1.246 |
| Knowledge | 1.250 | 0.553 | 5.114 | 1 | 0.024 | 3.489 | 1.181 | 10.306 |
| Gender(1) | $-0.409$ | 0.191 | 4.584 | 1 | 0.032 | 0.664 | 0.457 | 0.966 |
| Constant | $-3.393$ | 1.305 | 6.755 | 1 | 0.009 | 0.034 |        |        |

*Variable(s) entered on step 1: Sensory preferences, Habits, Health, Knowledge, Gender.

The predictor variable Sensory preference has the value of the logistic coefficient $B = -0.14$, and the statistical significance of predicting the decision on craft beer in the
value of \( p = 0.00 \). The exponential coefficient of this variable decreases and amounts to \( \exp(B) = 0.987 \), which is logical because sensory preferences influence the choice of craft beer more than the predictor variable habit (degree of freedom \( df = 1 \), reliability coefficient \( CFI = 95\% \)).

The predictor variable of Habit has a positive value. There are more respondents who opt for craft beer than those who opt for factory beer. Column \( \exp(B) \) contains exponential logistic coefficients that are very important for interpreting the outcome of logistic regression. In our specific case, the value for the pre-scan variable Habits \( \exp(B) = 1.648 \), which means that the factory beer has a higher chance than craft beer by 1.6 times, and the statistical significance is \( 0.07 \), which is considered statistically very significant.

The variable Health has the value of the logistic coefficient \( B = -0.061 \), and the statistical significance \( p = 0.672 \), which is above the limit value. The exponential coefficient is increased \( \exp(B) = 0.941 \), which again shows that compared to other variables, this variable does not have a significant impact on the choice of craft beer compared to factory beer. Its importance is neglected in choosing the type of beer. The degree of freedom is \( df = 1 \), with a confidence interval of 95\%.

Predictor variable Knowledge of the composition and process of beer production, has the following values \( B = 1.250 \), \( p = 0.02 \), and \( \exp(B) = 3.489 \) (\( df = 1 \), \( CFI = 95\% \)). Further, this predictor variable influences the choice of craft beer to a greater extent than the factory one, due to statistical significance, and the positive direction of the logistic coefficient \( B \), where the probability of switching from craft beer to factory beer is less likely in the choice. The gender variable has the following values \( B = -0.409 \), with \( p = 0.032 \). The table shows that the odds of choosing craft beer ("yes" category) is 0.664 times greater for males as opposed to females.

A logistic regression was performed to ascertain the effects of Sensory preferences, Habits, Health, Knowledge and Gender on the likelihood that participants choose craft beer. The logistic regression model was statistically significant, \( \chi^2(4) = 33.903, p < 0.005 \). The model explained 84.0\% (Nagelkerke \( R^2 \)) of the variance in in the choice of beer type and correctly classified 66.6\% of cases. Males were 0.66 times more likely to choose craft beer than females. All the results of the binary prediction are shown in Figure 7.

![Figure 7. Binary prediction.](image-url)

A logit prediction model has also been set up. The values from column B are used. We calculated the predicted logarithms of the chances, chances and probabilities. We do not know at this time whether all respondents will choose craft beer in the future based on the given descriptors. The predicted Chance Logarithm was \(-0.38\), so we took the form of a logistics model that uses Exp data, and calculated or predicted the chance. The predicted
chance is 0.38. The odds are less than 1, so the probability of selection is less than \( p < 0.05 \). The predicted probability that at some future point all factors in those over the age of 18 will influence the choice of craft beer is 0.27. Looking at the results of the variable discussed above, we notice that:

\[
\text{a) Ch} = \frac{p}{(p - 1)} \quad \text{b) Logit} = \ln\left(\frac{p}{(p - 1)}\right)
\]

- Values of about 0.38 chances and probabilities 0.27 are approximate: for values of \( p < 0.5 \) the value of \( p \) is less than \((1 - p)\), so the quotient \( \frac{p}{(1 - p)} \) is between 0 and 1, which makes a logit, \( \ln \) value \((\frac{p}{(1 - p)})\) less than 0 (according to the properties of the logarithmic function).
- However, as the probability continues to grow towards a value of 0.5 the chances are getting closer to one.
- Finally, when the probability reaches a value of 0.5, the chance value is 1 (1:1); for \( p = 0.5 \) \( \text{Chances} = 1 \rightarrow \text{Logit} = 0 \) (because \( \ln 1 = 0 \)).
- As the probability continues to increase towards 1 (its maximum), the chances increase from 1 to + (explanation: for \( p > 0.5 \) \( \rightarrow \) the value of \( p > (1 - p) \), so \( \frac{p}{(1 - p)} > 1 \), which makes the logit greater than 0, according to the properties of the logarithmic function).

5. Conclusions

According to economic experts, the growing popularity of craft beers in the future may bring somewhat different trends in the tourist market in the Republic of Serbia, thanks to their specific beers and more dynamic monitoring of market demands from large macro systems. The increase in consumer demand for specialty craft beers has experienced an incredible boom in the last two decades and continues to grow despite the general economic downturn. Specialty beers seem to satisfy the thirst for diversity on the market more successfully than standard industrial brands, because they are better positioned to build a unique and more intimate consumer culture. Food and drink in tourism are so important that they allow people to evolve from ordinary observers to active participants in tourism and hospitality activities. Food tourism without a doubt is a major component of the tourist’s itinerary and a focus of destination strategies. Craft breweries have an advantage in beer tourism at the moment. Passengers motivated by beer (called “beer tourists” or “beer travelers”) can be considered a separate market segment. They participate in food tourism by evaluating beer, in order to ease consumer demand. Some authors define tourists who visit the beer festival, as lovers of craft beer, who travel to the destination with the explicit purpose of visiting the local breweries of that destination. Their primary motive is craft beer. The influence of certain factors, as well as sensory preferences on the choice of beer type, has been investigated by many authors. The relationship between polyphenols and bitterness, as well as the composition of the main styles of craft beer and the consumer’s preference for them, has been researched and presented in many studies.

In 2019, the authors of the paper conducted a survey on a total sample of 542 respondents. The research was conducted during the three major beer festivals in the Republic of Serbia. The aim of the research was to determine which of the factors most influence the choice of beer type, in the population over 18 years of age. The largest percentage of festival visitors (68.7%) came off due to consuming different types of beer. Descriptive statistical analysis, in the SPSS software, determined arithmetic values and standard deviations for all items, which were divided into four groups of research. Then, a binary logistic regression determined which of the four groups of factors has the strongest predictor power, in predicting the choice of beer type among festival visitors. In addition, due to the impossibility of knowing at a given moment, how many of them will decide in the future only for craft beer, the logarithmic chance, chance and probability were calculated. The obtained results denied the initial null hypothesis that the largest number of festival visitors or consumers opt for the original factory beer, and confirmed the following:

- Most consumers, the festival visitors consume craft beer.
Most consumers, the festival visitors give an emphasis on the sensory acceptability of beer (appearance—clarity, color, foaminess and stability of the foam; smell; taste), as one of the parameters when choosing craft beer.

Habits are a strong predictor in predicting the choice of beer by consumers.

A healthy lifestyle is not a strong predictor in predicting the choice of beer by consumers.

Knowledge of the composition and process of beer production is a strong predictor in predicting the choice of beer by consumers.

The largest percentage of visitors come to consume beer, which will accelerate the development of craft tourism in Serbia.

Research is of great importance in the craft beer industry, because by considering greater opportunities for its development, it will affect the development of tourism in various forms. The paper included a sample of visitors to three major beer festivals, which bring together a large number of tourists each year, at the state level. By identifying various factors, including sensory preferences of consumers, it will be possible to look at all business mistakes, and compare strategic measures to raise production, beer sales and craft tourism to a higher level. Serbia is not a country that does not have developed tourism to a sufficient extent, but it could offer different types of craft beer on the European market, as well as a special niche of craft tourism. Interesting results would provide useful patterns for brewers aiming to place craft beer on a larger market, through tourism development. Beer festivals visited by the authors during the research can be a means of identification, as well as how it influences the formation of the image of Serbia at the European level. For now, festivals are recognized only at the local and regional level. The importance of field research by the authors will help in constructing an idea of a space or cultural environment; more precisely it will help in constructing an identity, and with that recognizability, it will influence greater attendance and tourist development of the country. Given the fact that festivals have been held for many years, it could be said that they represent a traditional event, which also makes them suitable examples for examining the relationship between festivals as an event and local identity, but also a broader identity. The authors’ research could contribute to creating awareness of the importance of holding a beer festival, and the recognition of Serbia on the European and world markets. The fact is that Serbia is not one of the recognizable countries for craft beer, but that it has festivals through which it can present domestic types of beer and attract festival visitors as fans of this type of beer.

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