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## **THE DETERMINANTS OF SERVICE QUALITY IN SKI TOURISM**

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**Abstract:** Regarding the fact that skiing is the most popular winter sport in Europe, the aim of the paper was to analyse the main determinants of service quality in ski tourism.

When defining the research process, it was noted that literature review has recognised significant studies dealing with the concept of ski tourism from different aspects such as tourist motivation to travel, ski tourism sustainability and climate change, marketing strategies or ski tourism infrastructure. However, there is a certain research gap in exploring the determinants of service quality in winter sports. Therefore, the main research question in this paper is to identify the significant factors that influence the service quality in ski tourism and affect tourist satisfaction levels.

The research is based on a sample of 157 recreational skiers who visited the Republic of Serbia during winter seasons in years 2022 and 2023. In the interpretation and processing of data, descriptive statistics and t test were used. The findings indicated the diversity of ski tracks, landscape, nature and hospitality as the most significant determinants of service quality in ski tourism.

**Keywords:** skiing, ski tourism, winter sports, service quality

### **Introduction**

The modern concept of quality emphasises the customer as the only authoritative factor for the assessment of service quality (Đoković & Celik, 2021). In accordance with this approach, the paper analyses the determinants of service quality in winter tourism with special emphasis on ski tourism. Bieger et al. (2002) define the tourist destination of winter sports as the geographical, economic, and social unit, consisting of organisations, companies, activities and infrastructure, having as a goal to enable the satisfaction of specific needs of winter sports tourists.

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The term ski tourist refers to a tourist who travels outside its residential place, with the intention to engage in the ski activities, as well as to experience other attractions related to vacation and stay in a ski tourism destination. According to Flagestad and Hope (2001) the ski tourist destination is consisted by the following components:

- Ski products as ski tracks, ski schools, ski guides, rental of ski equipment, service of ski equipment;
- Accommodation/catering capacities like hotels, motels, apartments, restaurants;
- Other contents of a destination, beside skiing like entertainment, events shops;
- Infrastructure and services such as transportation, health services, banks, police;
- Elements of sustainable development such as nature and eco approach, cultural heritage, social structure, design, and arrangement of a destination.

When defining the research subject, it was considered that the globalisation of winter tourism, stimulated by the international ownership of hotels and resorts, new digital reservation systems, as well as digital marketing in general, innovations in infrastructure and services influenced the habits and behaviour of tourists. An interesting insight into this subject was made by Downes (2015) who indicated that skier visits have generally increased at areas that have invested in new lifts, improved base facilities, and expanded ski terrains.

Furthermore, it was noted that literature review has recognised significant studies dealing with the concept of ski tourism from different aspects such as tourist motivation to travel, ski tourism sustainability and climate change, marketing strategies or ski tourism infrastructure. However, there is a certain research gap in exploring the determinants of service quality in winter sports. Therefore, the main research question in this paper was to identify the significant factors that influence the service quality in ski tourism and affect tourist satisfaction levels.

## **Ski tourism in Europe**

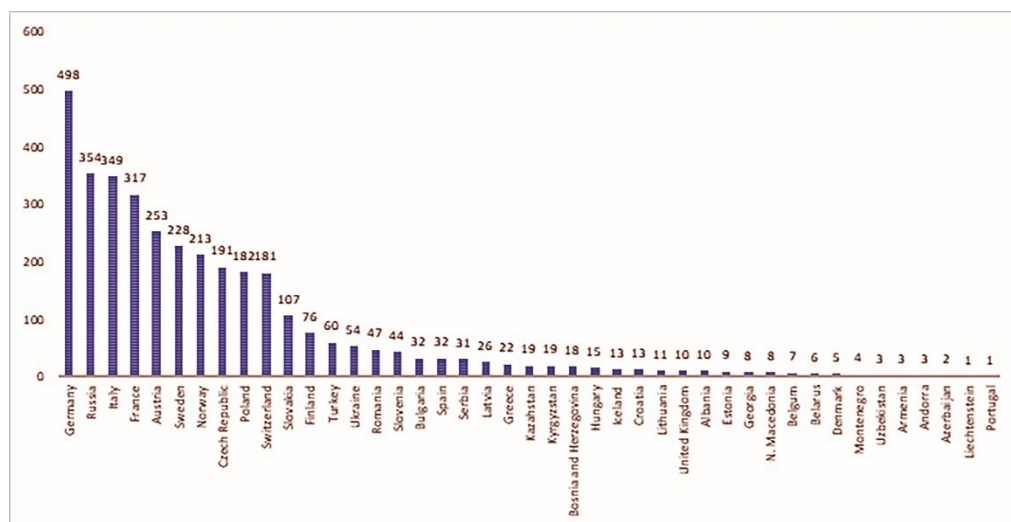
Based on the literature review, it can be concluded that the origin of ski tourism is related to Norway (Huntford, 2009). In 1843 the local newspaper of the Norwegian port Tromsø published an advertisement to promote skiing among the citizens, encouraging them to participate in ski competitions, emphasising the ride along the determined track and the return to the starting point. This act was the first recorded advertisement in the history of skiing, and it has marked the beginning of the skiing era (Mladenović, Jovanović, 2018). By the end of the 1800s, skiing techniques and equipment have been developed, but also the skiing as a sports discipline. However, skiing begins to flourish just in the second half of the 1900s, when totally equipped ski stations were built all over the Europe (Mladenović, Jovanović, 2019). During this period, the first skiing organisations and clubs emerged. In this regard, the Great Britain especially took the lead, where the first ski club was founded

in 1903. The Ski Club Great Britain (GB) is still active and successful. The turnover of the organisation has grown in the past several years, reaching nearly six million British pounds in 2019 (Statista, 2022) . Another significant contribution to the development of ski tourism was made by Henry Lunn, who organised an excursion for English skiers to the Swiss Alps in winter 1904 -1905. In that time the trip was an ambitious voyage that traced the path for further growth of skiing. Having in mind this contribution, Lunn was considered to be the initiator of the mass winter tourism (Huntford, 2009).

Nowadays, ski tourism has evolved into an important segment of the winter tourism industry in Europe. Its development was encouraged by the popularisation of skiing as a sport, as well as the growth of the number of people who ski professionally or recreationally. According to recent data presented by Statista (2023) the highest number of skiing participants in 2021 was recorded in Germany (14.6 million). However, the share of people who ski in European countries was the highest in Liechtenstein and Austria with 36 percent of population taking part in the sport. The same statistical survey presents that in Serbia there are officially 211.000 skiing participants, in Croatia (227.000), Slovenia (299.000), Bosnia and Herzegovina (175.000).

In the context of this research, it is also useful to analyse ski areas in Europe and determine the place of Serbia in this market. The findings presented in Figure 1 demonstrate that Serbia has significant number of ski areas (31) in comparison to other European countries. This number is particularly dominant regarding neighbouring countries such as Bosnia and Herzegovina (18), Hungary (17), Croatia (13), Albania (10), North Macedonia (8) and Montenegro (4), except Slovenia that has 44 ski areas.

**Figure 1:** Number of ski areas in Europe in 2021, by country



Source: Statista (2022)

## **Background of the study**

Having in mind that skiing is the most popular winter sport in Europe, the aim of the paper was to analyse the main determinants of service quality in ski tourism. The study was focused on the segment of recreational ski tourists, which has certain specificities. Theodorakis et al. (2009) in their study conducted a segmentation of recreational ski tourists according to motives, dividing them into four categories: beginners, lovers, naturalists, and tourists with multiple interests. Among the four categories of ski tourists, the authors have identified significant differences both in terms of loyalty and participation in the activities. The category of ski lovers had statistically higher results in engagement in activities compared to the remaining three groups of tourists. Another study made by Alexandris et al. (2006) has measured service quality in skiing resorts using Brady and Cronin's three-dimensional service quality model (physical environment quality, interaction quality, outcome quality). The starting point in this study was the fact that services are intangible which brings attentions to other aspects of satisfaction such as social interactions with the staff and hospitality, the quality of physical servicescape regarding natural environment, the ski tracks, landscape and the so called outcome quality which is related to tourist experience. Furthermore, Dickson and Faulks (2007) have explored customer satisfaction in ski areas, indicating that important factors which affect ski tourist decisions are safety and snow quality, the variety of tracks and space outside of tracks, but also other factors that are not directly related to skiing. They include shops, restaurants, and the possibility to participate in other recreational activities. In addition, Miragaia et al. (2016) have explored the satisfaction of ski tourists in ski destinations regarding the following determinants: capacities and equipment, characteristics of ski tracks, type of service in ski destination, restaurants, accommodation, and social activities, as well as the accessibility to a ski destination. This survey was based on a factorial analysis of selected determinants of service quality in ski tourism which was successfully tested in practices. Having in mind the comprehensiveness of such study, it was used as a role model in designing the questionnaire for this research. However, the survey was additionally enriched with two service quality determinants referring to servicescape and nature.

## **Methods and sample**

The survey was conducted on a sample of 157 recreational skiers who visited the Republic of Serbia during winter seasons in years 2022 and 2023. For the purposes of this research, an anonymous survey was constructed. The first part of the questionnaire referred to respondents' particulars (age, gender, country of residence). The second part of the survey included 18 statements (variables) referring to specific determinants of service quality in

ski tourism. The respondents used a five-point scale (1 = disagree; 2 = slightly disagree; 3 = neither agree nor disagree; 4 = slightly agree; 5= agree ) when ranking the statements.

In the interpretation and processing of data, descriptive statistics and t test were used.

In terms of gender, respondents were equally represented in the sample (N=157), which was important for the objectivity of conclusions about consumer behaviour in tourism (Figure 2). However, a slight majority were members of the male population (52,9%).

**Figure 2.** The sample structure by gender

|              |        | Gender    |         |               |                    |
|--------------|--------|-----------|---------|---------------|--------------------|
|              |        | Frequency | Percent | Valid Percent | Cumulative Percent |
| <b>Valid</b> | Male   | 83        | 52.9    | 52.9          | 52.9               |
|              | female | 74        | 47.1    | 47.1          | 100.0              |
|              | Total  | 157       | 100.0   | 100.0         |                    |

Source: Authors' calculation in SPSS

In the age structure of the sample (presented in Figure 3), the majority of respondents belonged to the 36-45 age category (58%) followed by the 47 -56 age group (20,4%).

**Figure 3:** The sample structure by age

|              |        | Age       |         |               |                    |
|--------------|--------|-----------|---------|---------------|--------------------|
|              |        | Frequency | Percent | Valid Percent | Cumulative Percent |
| <b>Valid</b> | 20 -35 | 19        | 12.1    | 12.1          | 12.1               |
|              | 36-46  | 91        | 58.0    | 58.0          | 70.1               |
|              | 47 -56 | 32        | 20.4    | 20.4          | 90.4               |
|              | 57 -65 | 15        | 9.6     | 9.6           | 100.0              |
|              | Total  | 157       | 100.0   | 100.0         |                    |

Source: Authors' calculation in SPSS

Regarding the country of residence, the respondents were from the following countries: Serbia (56,1%), Bosnia and Herzegovina (17,8%), Russia (9,6%), Montenegro (7,6%), North Macedonia (5,1%), Croatia (3,8%). Detailed data on this variable are shown in Figure 4.

**Figure 4:** Respondents' countries of residence

| Country of residence |                        | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------------|------------------------|-----------|---------|---------------|--------------------|
| <b>Valid</b>         | Serbia                 | 88        | 56.1    | 56.1          | 56.1               |
|                      | Bosnia and Herzegovina | 28        | 17.8    | 17.8          | 73.9               |
|                      | N.Macedonia            | 8         | 5.1     | 5.1           | 79.0               |
|                      | Montenegro             | 12        | 7.6     | 7.6           | 86.6               |
|                      | Russia                 | 15        | 9.6     | 9.6           | 96.2               |
|                      | Croatia                | 6         | 3.8     | 3.8           | 100.0              |
|                      | Total                  | 157       | 100.0   | 100.0         |                    |

Source: Authors' calculation in SPSS

## Research results

The respondents have ranked the importance of 18 variables that affect service quality in ski tourism. The variables have included different aspects such as facilities of ski resorts, snow conditions and ski tracks, additional services including shops and restaurants, accommodation, social life, landscape, and nature. The findings presented in Figure 5 indicated that the highest means in respondents' answers are recorded for the following variables: nature ( $M=4.9873$ ,  $SD=.11250$ ), landscape ( $M=4.9618$ ,  $SD=.19233$ ), competence of the employees and hospitality ( $M=4.9618$ ,  $SD=.19233$ ) and diversity of ski tracks ( $M=4.8599$ ,  $SD=.34823$ ). On the other hand, the lowest mean was recorded for parking ( $M=1.5159$ ,  $SD=1.08961$ ).

**Figure 5:** Determinants of service quality in ski tourism – Descriptive statistics

| Descriptive Statistics           |     |         |         |        |                |
|----------------------------------|-----|---------|---------|--------|----------------|
|                                  | N   | Minimum | Maximum | Mean   | Std. Deviation |
| Lift maintenance and functioning | 157 | 2.00    | 4.00    | 2.8471 | .60091         |
| Facilities quality               | 157 | 2.00    | 5.00    | 3.8025 | .73763         |
| Parking                          | 157 | 1.00    | 5.00    | 1.5159 | 1.08961        |
| State of equipment               | 157 | 1.00    | 4.00    | 2.6688 | 1.10005        |

|                                                    |     |      |      |        |         |
|----------------------------------------------------|-----|------|------|--------|---------|
| <b>Snow conditions</b>                             | 157 | 3.00 | 4.00 | 3.4140 | .49413  |
| <b>Diversity of ski tracks</b>                     | 157 | 4.00 | 5.00 | 4.8599 | .34823  |
| <b>Quality of the slopes</b>                       | 157 | 2.00 | 5.00 | 3.3822 | 1.02866 |
| <b>Competence of the employees and hospitality</b> | 157 | 4.00 | 5.00 | 4.9618 | .19233  |
| <b>Health and safety services</b>                  | 157 | 3.00 | 5.00 | 3.8280 | .39514  |
| <b>Supermarkets and shops</b>                      | 157 | 1.00 | 4.00 | 2.9427 | .81052  |
| <b>Restaurant quality</b>                          | 157 | 2.00 | 5.00 | 3.0828 | .99332  |
| <b>Restaurants prices</b>                          | 157 | 2.00 | 5.00 | 3.3248 | .95553  |
| <b>Accommodation quality</b>                       | 157 | 2.00 | 4.00 | 3.1401 | .58242  |
| <b>Accommodation prices</b>                        | 157 | 3.00 | 4.00 | 3.6815 | .46737  |
| <b>Nightlife</b>                                   | 157 | 1.00 | 4.00 | 2.6306 | .98896  |
| <b>Meeting different people</b>                    | 157 | 2.00 | 4.00 | 3.5287 | .51342  |
| <b>Landscape</b>                                   | 157 | 4.00 | 5.00 | 4.9618 | .19233  |
| <b>Nature</b>                                      | 157 | 4.00 | 5.00 | 4.9873 | .11250  |
| <b>Valid N (listwise)</b>                          | 157 |      |      |        |         |

*Source: Authors' calculation in SPSS*

In addition, the analysis has included the respondents' answers regarding their gender, with special emphasis on identified variables with high means. The results presented in Figure 6 demonstrate slight differences in answers between the genders. For variables landscape ( $M=5$ ,  $p=.000<.05$ ), diversity of ski tracks ( $M=5$ ,  $p=.000<.05$ ) and competence of the employees and hospitality ( $M=5$ ,  $p=.000<.05$ ) higher means were evidenced within the male respondents. However, a slightly higher mean value in the responses of the female population from the sample was recorded for the variable nature ( $M=5$ ,  $p=.007<.05$ ).

**Figure 6:** Differences in respondents' answers by gender

| Group Statistics                            |        |    |        |                |                 |
|---------------------------------------------|--------|----|--------|----------------|-----------------|
|                                             | Gender | N  | Mean   | Std. Deviation | Std. Error Mean |
| Nature                                      | Male   | 83 | 4.9759 | .15428         | .01693          |
|                                             | Female | 74 | 5.0000 | .00000         | .00000          |
| Landscape                                   | Male   | 83 | 5.0000 | .00000         | .00000          |
|                                             | Female | 74 | 4.9189 | .27482         | .03195          |
| Diversity of ski tracks                     | Male   | 83 | 5.0000 | .00000         | .00000          |
|                                             | Female | 74 | 4.7027 | .46019         | .05350          |
| Competence of the employees and hospitality | Male   | 83 | 5.0000 | .00000         | .00000          |
|                                             | Female | 74 | 4.9189 | .27482         | .03195          |

| Independent Samples Test |                             |  |                                         |      |                              |        |                 |                 |                       |                  |
|--------------------------|-----------------------------|--|-----------------------------------------|------|------------------------------|--------|-----------------|-----------------|-----------------------|------------------|
|                          |                             |  | Levene's Test for Equality of Variances |      | t-test for Equality of Means |        |                 |                 |                       |                  |
|                          |                             |  | F                                       | Sig. | t                            | df     | Sig. (2-tailed) | Mean Difference | Std. Error Difference | %<br>Lower Upper |
| Nature                   | Equal variances assumed     |  | 7.586                                   | .007 | -1.343                       | 155    | .181            | -.02410         | .01794                | -.05954 .01134   |
|                          | Equal variances not assumed |  |                                         |      | -1.423                       | 82.000 | .159            | -.02410         | .01693                | -.05778 .00959   |
| Landscape                | Equal variances assumed     |  | 34.789                                  | .000 | 2.689                        | 155    | .008            | .08108          | .03015                | .02152 .14065    |
|                          | Equal variances not assumed |  |                                         |      | 2.538                        | 73.000 | .013            | .08108          | .03195                | .01741 .14475    |



|                                                    |                             |         |      |       |        |      |        |        |        |        |
|----------------------------------------------------|-----------------------------|---------|------|-------|--------|------|--------|--------|--------|--------|
| <b>Diversity of ski tracks</b>                     | Equal variances assumed     | 416.633 | .000 | 5.888 | 155    | .000 | .29730 | .05049 | .19756 | .39704 |
|                                                    | Equal variances not assumed |         |      | 5.557 | 73.000 | .000 | .29730 | .05350 | .19068 | .40391 |
| <b>Competence of the employees and hospitality</b> | Equal variances assumed     | 34.789  | .000 | 2.689 | 155    | .008 | .08108 | .03015 | .02152 | .14065 |
|                                                    | Equal variances not assumed |         |      | 2.538 | 73.000 | .013 | .08108 | .03195 | .01741 | .14475 |

Source: Authors' calculation in SPSS

The findings in this research have also indicated that the quality of facilities affect respondent's satisfaction in ski tourism. In regard to this conclusion, further analysis compared means between tourists from different countries of residence. The results presented in Figure 7 demonstrate that respondents from Serbia (M=4.0114) and Russia (M=4) particularly value the facilities quality in ski resort which significantly affect their perception of service quality. On the other hand, the lowest mean for this variable was recorded within respondents from North Macedonia (M=2.75).

**Figure 7:** Respondents' answers regarding facilities quality by country of residence

| <b>Report</b>                 |        |    |                |
|-------------------------------|--------|----|----------------|
| <b>Facilities quality</b>     |        |    |                |
| Country of residence          | Mean   | N  | Std. Deviation |
| <b>Serbia</b>                 | 4.0114 | 88 | .66944         |
| <b>Bosnia and Herzegovina</b> | 3.5357 | 28 | .50787         |
| <b>N.Macedonia</b>            | 2.7500 | 8  | 1.03510        |

|                   |        |     |         |
|-------------------|--------|-----|---------|
| <b>Montenegro</b> | 3.7500 | 12  | .45227  |
| <b>Russia</b>     | 4.0000 | 15  | .53452  |
| <b>Croatia</b>    | 3.0000 | 6   | 1.09545 |
| <b>Total</b>      | 3.8025 | 157 | .73763  |

Source: Authors' calculation in SPSS

## Conclusion

Starting from the economic and social importance of ski tourism in Europe and Serbia, the paper has explored the basic determinants that tourists value when perceiving the quality of tourist service in ski resorts. According to literature review that was used in this research, the most important determinants of service quality in ski tourism refer to ski tracks, ski resort facilities, accommodation and additional services, the competences of human resources and natural surroundings of the service. In this regard, the paper has classified different scientific approaches to the concept of service quality in ski tourism and demonstrated measurement models and surveys that have been successfully tested in practice. Therefore, the theoretical background was used in designing the questionnaire that was applied in the empirical research. The survey was based on a sample of recreational skiers (N=157) who visited the Republic of Serbia during winter seasons in years 2022 and 2023. The results indicated the diversity of ski tracks, landscape, nature, the competence of employees and hospitality as the most significant determinants of service quality in ski tourism. In addition, the research has shown that the respondents also value the quality of facilities as important aspect of ski tourism, which is particularly evidenced within the respondents from Serbia and Russia.

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