

# ANALYSIS OF THE IMPACT OF CLIENT SATISFACTION OF TOURIST COMPANIES ON THE VALUE OF SERVICE SALES USING HARTLEY HOMOGENEITY OF VARIANCE TEST

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## Summary

*Client satisfaction is the goal of every business, including tourist companies. There is a saying that a satisfied customer is a loyal customer. However, does a satisfied customer really contribute to an increase in sales value? The aim of this work is to examine the connections and the influence of the achieved level of satisfaction of clients of tourist companies on sales values that these companies achieve. The working hypothesis of the paper reads: "Tourist companies that have satisfied clients achieve higher sales value." The hypothesis was tested using a combination of two surveys and two independent samples: 52 companies operating in the tourism sector in Bosnia and Herzegovina and 595 clients of their services. The research is based on a controlled random sample. The results of the conducted research indicate that tourism companies should make significant investments in achieving the satisfaction of their clients in order to increase the value of the sale of their services and thereby improve their business.*

**Keywords:** *client satisfaction, marketing, sales value, Hartley test*

**JEL classification:** *C12, C29, D12, M31, M51, M54*



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## 1 INTRODUCTION

If companies want to keep their customers, they need to satisfy their needs first. Customer satisfaction is a critical concept that is of utmost importance to managers and marketers. As such, it is usually defined as the degree of fulfillment of client expectations.

The tourism sector is specific when it comes to client expectations. It includes various travel agencies, hotels, motels, campsites and other companies from the hotel and catering offer. Therefore, the expectations of their clients are focused on positive experiences, atmosphere, peace or activism, depending on preferences and lifestyle. The content of the offer is certainly important for achieving client satisfaction, which can also be a limiting factor for the return of clients (let's say that they are destinations that are not visited often). However, a satisfied client is not only loyal, but can contribute to the transfer of his positive experiences to others.

Why is customer satisfaction important for businesses in a financial sense? Because satisfied clients are usually less sensitive to price increases, and by passing on positive experiences, they contribute to the generation of new clients and higher sales value.

The aim of this paper is to examine whether the presented theoretical principles in the case of tourism companies operating in the territory of Bosnia and Herzegovina. The working hypothesis is defined: "Tourist companies that have satisfied customers achieve higher sales value." The following is an overview of the theoretical background, followed by the methodology and results of the conducted research with conclusions and recommendations.

## 2 RELATIONSHIP MARKETING AS A FUNCTION OF CLIENT SATISFACTION IN SERVICE SECTOR

Marketing is one of the main functions and aggregation of processes in an organization aimed at creating and delivering values to the clients. It is used to create effective relationships with the clients besides successful communication on the behalf of the organization. This proves beneficial to the firms and stakeholders (Tuli and Bharadwaj, 2009).

Client satisfaction is a reflection of how they feel about while interacting with company and brand. Essentially clients are known to derive satisfaction mainly because of good consumption experience or it may be some good after sales services (Theron and Terblanche, 2010). Academic research in the field of client (consumer) satisfaction began in the 80s and 90s of the last century, and today they are the norm for successful business operations and an integral part of relationship marketing. And while some single out client satisfaction as a special category of marketing performance, authors like Oliver define it as an integral part of loyalty, the so-called. affective dimension of loyalty (Oliver, 1999).

Relationship marketing is chiefly concerned with building relationships at each and every possible point of interaction between the firms and the clients. This implies mutual benefit for the firms and the clients (Lo, 2012). Most studies show the persistence of a positive relationship between the implementation of relationship marketing and client satisfaction (Ballantyne, 2000, Ndubisi, 2007, Alrubaiee and Al-Nazer, 2010, Theron and Terblanche, 2010, Lo, 2012).

However, when we speak from the perspective of owners and managers and their interests, client satisfaction alone is

not a guarantee of business success. Müller and Siréa point out that focus on customer satisfaction contributes to a higher customer loyalty index, higher frequency of purchase, and higher profit (Müller and Siréa, 2005). Stakeholders strive to achieve the highest possible sales, repeat purchases, return on invested funds and profitability. There is much less research in this regard. Some studies show that client satisfaction plays a key role in influencing the risks on returns of a company's stocks (Sarлак and Fard, 2009; Jiang et al., 2010).

Client satisfaction of service companies is directly related to the service provision process itself, which is inseparable from the company itself. For tourist companies is even more specific. Tourism sector includes hotels and accommodation companies, restaurants, catering and travel agencies. World Tourism Organization (UNWTO, 2014), considers client satisfaction in tourism sector as satisfaction with all legitimate needs for products and services in tourist destinations, the satisfaction that comes with meeting the requirements and user/tourist expectations, as well as satisfaction with price and value. So in this case the satisfaction can be related to the very quality of the tourist destination, which is not under relationship marketing direct control. However, it is only one of the dimensions of client satisfaction, while relationship marketing has a much greater range of influence on the perception and the achieved level of client expectations.

According to what was presented, the focus of this research goes a step further, and that is connecting the satisfaction of clients of tourism companies and the main stakeholders' goal in the form of increasing the value of sales of services.

### 3 RESEARCH METHODOLOGY

Data used in this study was collected through a survey conducted on a controlled random sample of 52 companies operating in tourism sector throughout Bosnia and Herzegovina and 595 of their clients. Two surveys were created, one for managers in tourist companies and the other for their clients. The research was conducted in the period from September 2021 to February 2022, using a combination of printed and online forms of the questionnaire. It is a controlled random sample.

The working hypothesis of the paper reads: "Tourist companies that have satisfied clients achieve higher sales value." The independent variable is client satisfaction, while the dependent variable is sales value. For the purpose of testing the hypothesis, we created our own measurement scales with indicators, which are based on the theoretical and empirical conclusions of mentioned studies.

Indicators, that is, statements, were rated on a Likert scale (from 1 to 5). The independent variable is represented by a series of 4 indicators (Likert scale 1-strongly disagree, 5-strongly agree) and the dependent variable is represented by 3 indicators (Likert scale 1-We are recording a decline, 5-Exceptional growth). We conclude that the condition of existence of at least three manifest variables - indicators is satisfied (Brajčić, 2022).

The problem of this research is the existence of two independent samples (service companies and their clients), which are different sizes. Given that there is no single statistical-methodological solution in these cases, there are several possible approaches to testing the hypothesis. After reviewing the relevant literature, the method of t-test of independent samples (Hartley Test of homogeneity of variance) was chosen, whereby we compare their arithmetic means.

The results of the conducted research are presented in the following chapter.

## 4 RESEARCH RESULTS

After creating their own measuring scale, all authors are obliged to examine their validity. Testing the reliability of the measuring scales of the independent and dependent variables was performed using Cronbach's coefficient alpha, and the results are shown in the table below.

Table 1. Testing the reliability of the measuring scales

Variables	Cronbach's coefficient alpha	Standardized Cronbach's coefficient alpha	Total number of claims
Client satisfaction	0.874	0.874	4
Sales value	0.918	0.922	3

Source: Authors

According to the recommendations of quantitative economics, the value of Cronbach's alpha coefficient should be above 0.7 in order for the measurement scales to be considered reliable. As we can see from Table 1, the measurement scales for the independent and dependent variable are highly reliable (values above 0.8). The following table shows the results of descriptive statistics.

Table 2. Descriptive statistics for independent and dependent variable

Var.	Indicators	Arithmetic Mean	Median	Mode	Standard Deviation
Client satisfaction	I am generally satisfied with the services of this company.	4.28	5.00	5	0.874
	I always follow the actions and novelties published by this company.	4.17	4.00	5	0.970
	I consider myself bound to this company and its services.	4.11	4.00	5	0.986
	I associate using the services of this company with positive emotions.	4.13	4.00	5	0.974
Sales value	Growth in the value of sales/services provided.	3.68	4.00	4	1.189
	Sales revenue achieved through cooperation with regular customers.	3.75	4.00	4	1.108
	Sales revenue from newly acquired customers in the total value of revenue.	3.57	4.00	4	0.971

Source: Authors

As we can see from Table 2, ratings of achieved customer satisfaction of tourist companies were slightly higher than ratings of the sales value indicator by the management of those companies. The most common ratings of satisfaction were 5, while the most common ratings of value of sales were 4. It is also noticeable that there is greater agreement in the answers of clients than managers (standard deviation values).

After the descriptive statistics, we move on to hypothesis testing. It has already been

emphasized that due to the stability of the two samples, the t-test of independent samples was used. Table 3 presents summary data, with highlighted differences in arithmetic means, which will be the basis for conducting the t-test of independent samples.

Table 3. Aggregate data for hypothesis testing on the tourist services market

Sample	N	Arithmetic Mean	Standard Deviation	Standard error of the mean
Clients of tourist companies	595	4.170	0.950	0.039
Tourist companies	52	3.670	1.090	0.151

Source: Authors

In order to make a decision whether to accept or reject the set hypothesis, it is necessary to first observe the level of significance in the Hartley Test of homogeneity of variance. If it is greater than 0.05, then we will look at the first row (assumption of equal variances - homogeneity of variances). If the Hartley Test of Homogeneity of Variance is less than 0.05, then we are looking at the second row (equal variances assumption - variances are not homogenous). If we have homogeneity of variances, then we fulfill the assumption of homoscedasticity.

Table 4. The results of the t-test analysis of independent samples for the purposes of hypothesis testing on the tourist services market

Assumptions	Hartley Test homogeneity of variance		t-test of homogeneity of arithmetic means				
	F	Level of significance	t-test	Degree of freedom	Two-tailed p-value test	Difference of means	Average deviation
Assumption of equal variances	1.316	0.0732	3.595	645	0.000	0.500	0.139
Assumption of unequal variances			3.203	57.974	0.002	0.500	0.156

Source: Authors

Based on the obtained result, we can conclude the following:

The Hartley Test of homogeneity of variance is greater than 0.05 (0.0732), thus meeting the assumption of homoscedasticity. On the basis of what was obtained, we observe the first row (assuming equal variances), where the value of the t-test is 3.595, and the number of degrees of freedom is 645 (n-2 degrees of freedom). Analyzing the p-values (p=0.000), we confirm the hypothesis that: "Tourist companies that have satisfied clients achieve higher sales value."

## 5 DISCUSSION AND CONCLUSIONS

Modern business assumes customer satisfaction as a norm for every company. The theoretical starting point presented in this paper predicts the positive impact of conducting adequate marketing activities, especially from the domain of relationship marketing, on achieving client satisfaction.

The theory also predicts a positive impact of customer satisfaction on the business of the company that applies these marketing activities. However, as already emphasized, very few studies examine the relationship between customer satisfaction and company performance. One of the possible reasons is that it is very difficult to statistically and methodologically connect the variable of client satisfaction and the variable of business performance of the company. Mainly because the links between two independent samples (companies and their clients) have to be compared.

Using the example of tourism companies and their clients in Bosnia and Herzegovina, this paper provides a unique new approach to measuring the connection between these two samples, using the Hartley test of homogeneity of variance, as a modality of the t-test of independent samples. The results of the conducted research confirm the previous theoretical postulates, and go in the direction of confirming limited but extremely important studies conducted by Sarlak and Fard, and also Jiang and his colleagues.

The contribution of this research is reflected both in the scientific and methodological sense of providing a statistical solution to the problem of two samples, but also in a practical sense. Given that the hypothesis was confirmed, the recommendation to all managers of tourism companies would be to invest greater efforts in the implementation of marketing activities with the aim of achieving the satisfaction of their clients, which as a result will contribute to the

growth of their income through a higher value of sales of services.

In order to obtain generalizable conclusions about the effects of customer satisfaction on the value of sales, we recommend conducting similar research in other service branches as well. Considering that the form of the indicators is of a general form, it is possible to directly use them in different companies and thus better comparability of the obtained results.

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