THE STATISTICAL ANALYSIS OF THE CONSUMER ATTITUDES TOWARD THE HOSPITALITY SERVICES OF ABROAD

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Abstract:
In this paper, we have statistical analyze the consumer attitudes toward the hospitality services of abroad. We have developed a questionnaire which was answered by 83 people. Based on these responses we have made a top of the hospitality services in terms of respondent. Then, we applied the Helmert univariante test to show that these results can be generalized. Also, we asked respondents to give a note for each service of hospitality from abroad (as a whole going abroad for the past two years). We calculated the average of these notes for each service of hospitality separately, and we generalized the results for the entire population by computing for each the corresponding confidence interval, with a 95% of probability.

Key words: *Ordinal scaling method, interval scaling method, Helmert (χ^2) test, confidence interval, the Laplace function (the z test)*

JEL classification: *C44*

1. Introduction

The rising of the living standards is reflected in many aspects of life; among them is also reflected on the tourism. Until the appearance of the economic crisis, the statistics have revealed that Romanians are increasingly willing to spend significant amounts of their income to travel abroad for tourism. But this economic crisis has reduced the number of trips abroad, following the global trend

Daniel Vasilescu, representing the Employers Federation of Tourism claims that there is a reduction from 20 to 30% for foreign destinations. Operators try to counteract the effects of economic crisis and make reductions in travel packages. Even for the exotic, which is for a certain category of people, there are discounts.

However, foreign tourist destinations remain attractive. To understand the characteristics of hospitality that make the foreign destinations attractive, we have made the study underlying this paper.

2. Material and Methods

To analyses the characteristics of hospitality that make the foreign destinations attractive, we designed a questionnaire to obtain the data necessary to study the consumer attitudes toward the services of hospitality in other countries. For one week, this questionnaire was answered by 83 people, including 32 men and 51 women aged 19-58 years. Respondents were randomly selected from the counties of Timis and Caras-Severin.

We also used data provided by the National Institute of Statistics, Statistical Yearbook 2008 – chapter 20 Tourism.

For the data obtained we used:

- ***The ordinal scaling method*** to determine the place of hospitality services (the room, the restaurant, the bar room, the recreation and the SPA center) of the accommodation units (the respondents were given a place from 1 to 5 for each of these services, 1 representing the best place).
- ***The interval scaling method*** to determine the overall score provided (in all the trips in the last 2 years) (respondents were given a point from 1 to 10, where 10 is the maximum score).
- ***The Helmert (χ^2) test*** to determine if the classification of the hospitality services, in terms of their importance to respondents, corresponded to the reality.

3. Results and Discussions

Starting from the data offered from the National Institute of Statistics, we have observed that between 2002 and 2007 there was an increase of the international trips registered at Romania's borders (see Figure 3.1).

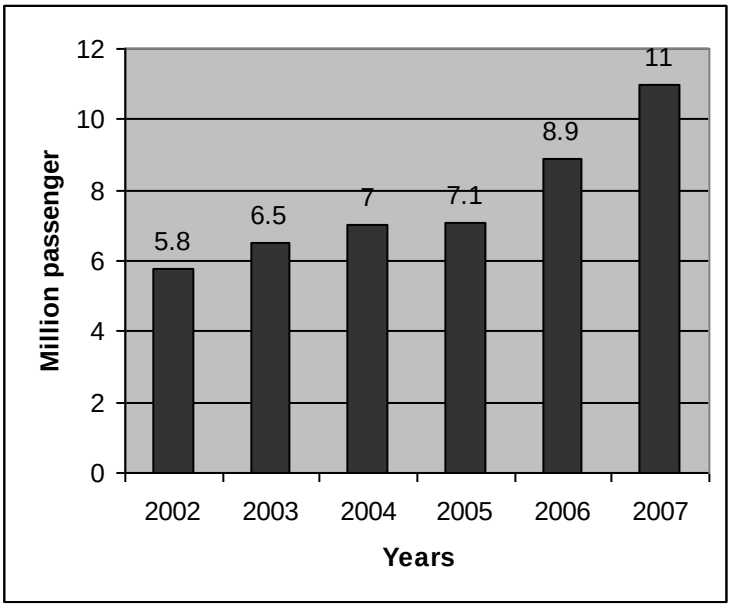

Figure 3.1. International trips registered at Romania's borders (departures) according to the National Statistics Institute

From all of the data provided by National Institute of Statistics, we illustrated in Figure 3.2. the evolutions of travels abroad and in Romania for holidays and business.

In this study, 83 people are interviewed about their attitudes relative to hospitality services. Survey results are in table 3.1. and to obtain them we used ***the rank order scale*** which implies that the respondent establishes a hierarchy of the hospitality services analyzed according to their importance, indicating the place occupied by each of them.

But, we can say with a 95% probability that the survey reflects the actual preferences of consumers in the market?

From Table 3.1. we can see that the room seems to be the top preference, followed by the restaurants and entertainment, then the SPA center and on the last place is situated the bar room. But who can guarantee that these results correspond to the reality and that they are not only due to the sampling fluctuations?

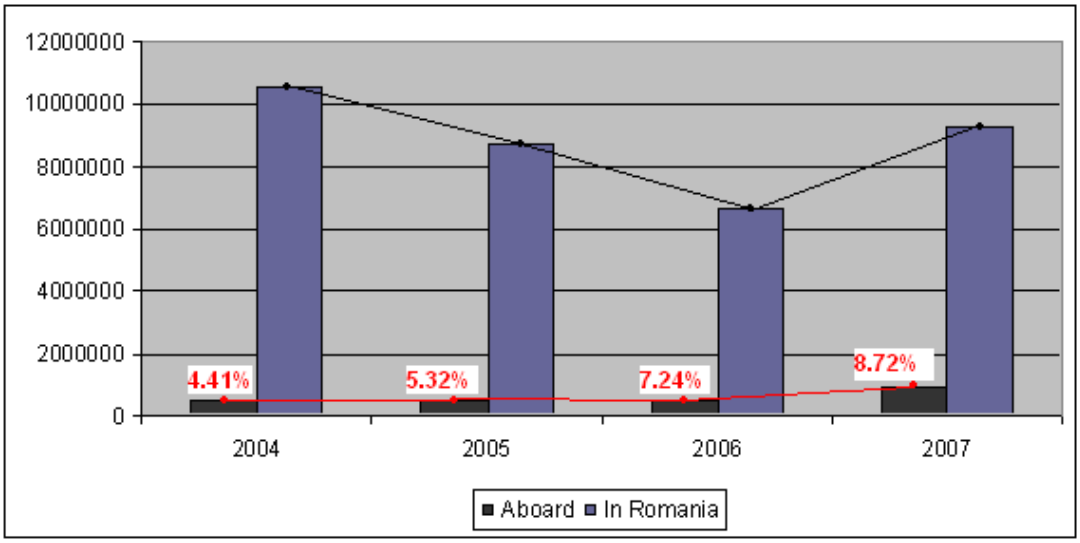

Figure 3.2. The evolutions of travels abroad and in Romania for holidays and business

To answer this question we apply the Helmert univariate (χ^2) test. This test compares an observed distribution (actual) with a known theoretical distribution and determines whether there are significant differences between them or not. For this we note the observed frequencies whit O_i, and the theoretical one whit T_i.

Table 3.1.

The classification of hospitality services by the place occupied by the respondent's view (only 75 of 83 people responded to this question)

The service	The room	The restaurant	The bar room	The recreation	SPA Center	Total
No. (O_i)	40	13	4	13	5	75

Thud, if among the respondents there isn't a particular preference for a certain hospitality service, then the survey results would be, theoretically, those of the table 3.2.

Table 3.2.

The theoretically results of the survey

The service	The room	The restaurant	The bar room	The recreation	SPA Center	Total
No. (O_i)	15	15	15	15	15	75

Thus, we formulate the null hypothesis (H_0) under which the observed and real frequencies are equal (i.e. $H_0 : O_i = T_i$) and the alternative hypothesis which denies the null hypothesis (i.e. $H_1 : O_i \neq T_i$) and we determine the computed value of the Helmert test as

$$\chi_c^2 = \sum_{i=1}^{n} \frac{(O_i - T_i)^2}{T_i} = 56{,}93.$$

From the statistical tables relating χ^2 test for a confidence level of 95 %(i.e. $\alpha = 0.05$) and for $n-1=5$ degrees of freedom we determined its critical value as $\chi_t^2 = 9{,}488$. As $\chi_c^2 > \chi_t^2$ we conclude with a 95% of probability that the null

hypothesis is rejected and that the survey results correspond to actual consumer preferences.

Also, the respondents had to evaluate the services of foreign hospitality by giving each a score from 1 to 10. Of the 76 respondents to the questionnaire, only 63 have traveled abroad in the last two years – 5 of them haven't benefited from the recreation services, the SPA center and the bar room services.

Thus, computing an average grades for each hospitality service, we obtained the following results:

Table 3.3.

The top of the hospitality service of abroad, in terms of grades given by respondents

The service	**The room**	**The restaurant**	**The bar room**	**The recreation**	**SPA Center**
The grade	8,69	8,83	8,36	8,82	8,99
The place	IV	II	V	III	I

Still, we want to extend the results in Table 3.2. for the entire population made up of Romanian tourists. For this purpose is used most often the direct enlargement process. By applying this procedure is estimated the ***confidence interval*** for the general community average and the limits that will fit the characteristic of the whole community totaled.

Table 3.4.

The confidence intervals for a confidence level test of $\alpha = 0{,}5$ (i.e. with a 95% probability)

The service	**Mean**	**Standard Deviation**	**The critical value of the test**	**Confidence interval**	**n**
The room	$\bar{x} = 8{,}6905$	$s = 1{,}2129$	$z_\alpha = 1{,}96$	$8{,}5196 \le \mu \le 9{,}1312$	63
The restaurant	$\bar{x} = 8{,}8254$	$s = 1{,}2384$	$z_\alpha = 1{,}96$	$8{,}391 \le \mu \le 8.99$	63
The bar room	$\bar{x} = 8{,}362$	$s = 1{,}5971$	$z_\alpha = 1{,}96$	$7{,}951 \le \mu \le 8{,}773$	58
The recreation	$\bar{x} = 8{,}776$	$s = 1{,}2289$	$z_\alpha = 1{,}96$	$8{,}4596 \le \mu \le 9{,}092$	58
SPA Center	$\bar{x} = 8{,}9914$	$s = 1{,}0942$	$z_\alpha = 1{,}96$	$8{,}7098 \le \mu \le 9{,}273$	58

Since the sample size is greater than 30, we apply the Laplace function. Thus, the interval in witch the average of the general community is given by the formula:

$$\bar{x} - z_\alpha \cdot \frac{s}{\sqrt{n}} \le \mu \le \bar{x} + z_\alpha \cdot \frac{s}{\sqrt{n}},$$

where:

- μ represents the average of the general population;
- $\bar{x}$ represents the sample average;
- s represents the standard deviation of the sample;
- n represents the sample volume.

In conclusion, with a 95% of probability we can assume that the hospitality services of aboard are estimated between 7,9 and 9,3.

4. Conclusions and Future Work

Although the five hospitality services occupy a certain place as important to respondents, however, when traveling abroad, they prefer to receive better services for recreation, restaurant or bar room, making small compromises in the conditions of the room hospitality. In the future, we'll do an analysis in the way of hospitality services are quoted in our country versus abroad, as current statistics reveal that most Romanians preferred to travel in the country.

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