Cuadernos de Turismo, nº 38, (2016); pp. 585-589
ISSN: 1139-7861
eISSN: 1989-4635
Universidad de Murcia

MAIN VARIABLES FOR QUALITY MANAGEMENT OF CRUISE TOURISM RECEPTION

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Cruise tourism is among the most known tourism modalities; it stands for one of the segments of international tourism with the highest growth rate in past years. Specifically, the arrival a of cruise tourists to the insular Caribbean in the period 2011-2013 has had a very favorable behavior, with an annual average growth of 6.8%, much higher than the average of previous years (2000-2010), and higher also than the average growth of number of tourists that boarded a cruise worldwide between 2011 and 2013 that, according to Cruise Lines International Association (CLIA), can be calculated as 2.8%.

Cruise reception services reappear in Cuba in 1993, within the economic strategies of the Cuban government to recover from the crisis suffered after the fall of the socialist Eastern Europe. From that point on, cruise tourism reception has been operated in four Cuban tourism destinations: Havana, Santiago de Cuba, Cienfuegos, and Isla de la Juventud, being Europe the main source of clients.

Santiago de Cuba is one of the main cruise tourism destinations with deep sociocultural and historical roots, natural attractions, scenery and good weather that compose a diverse and integral offer. Due to its infrastructure, it is also one of the most attractive to cruise tourism. Its location and closeness to the biggest islands of the Antilles contribute to the successful integration of several cruise routes in the Caribbean, which is an interesting background for the development and expansion of this tourism modality.

From 1994 until October 2013, 219 cruises and 134 038 cruise tourists arrived to Santiago de Cuba, which proves the interest of cruise companies in the destination Santiago de Cuba. In spite of that, the research developed by the authors of this article has verified a series of problems in the cruise reception service, associated mainly with quality management and therefore the need of determining the variables that influence the quality management of the cruise tourism reception service.

In this research, the Cronbach Alpha coefficient was applied to validate the reliability and validity of the measuring instrument and Analysis of Main Components (ACP in Spa-

nish) to reduce the dimensions of the set of variables. The data used for the study were the result of a survey applied to 50 experts of the tourism destination of Santiago de Cuba, involving managers and personnel that deal directly with the clients. The criteria to select the experts were the level of knowledge, experience, and studies conducted, which determine the calculation of a competence coefficient validated by the software DECISION.

The 50 experts assigned values to each of the variables analyzed according to their assessment of their influence in the quality management of the cruise reception tourism in Santiago de Cuba. To measure the degree of influence of each of the variables in the management of the service studied, a 1 to 5 Likert-based scale was established, where 1 is the lower degree of influence and 5 the highest one. Once the experts´ assessments were collected, the next step was to validate the concordance among them; for this purpose, the W test of Kendall was used. The statistical package SPSS[1] version 19.0 was used as support software. This test corroborated the existence of a high concordance in the assessments of the experts, with a W coefficient value of 0.811 and a high significance, lower than 0.05 that allowed not to reject H1, associated with the fact that the assessments of the experts are consistent.

In a **first** moment of the analysis, the variables to which the experts gave the same mark were selected; besides, in these variables the criterion of the total of experts coincided with the fact that they present a «Very High» or «High Influence» in the quality management of the cruise tourism reception service in a receptive destination. Those variables were: client, environment, improvement, objectives, organization product or service, material resources, touristic services suppliers, technology, values, vision, feedback, people involved in the service, customer loyalty and satisfaction.

Subsequently, in a **second** moment, with the remaining 24 variables, the Cronbach Alpha coefficient was applied to evaluate the reliability and validity reached with the measurement instrument.

With the support of the software STATISTICA and specifically the option of Multivariate Exploratory Techniques/Analysis of Items Reliability, the medians and deviations typical of each variable were calculated, as well as the resulting Alpha coefficient once a variable is deleted *(Alpha if deleted)*. The result of this analysis is that there are 5 variables with medians lower than 2; that is, they have zero influence in the quality management of the cruise reception service. On the other hand, when the results of the Cronbach Alpha coefficient are analyzed, one can see that their exclusion from the analysis improves the value of the coefficient. Such variables were: auditing, weather insuring, patents, quality records and post-sale services. In this way, 33 variables remained, which present the influence in quality management of the cruise tourism reception service in the receptive destination.

1. ANALYSIS OF MAIN COMPONENTS

Once the 33 variables have been determined, the Analysis of Main Components (ACP in Spanish) was applied.

1 SPSS. Statistical Package for Social Sciences. IBM.

After an initial descriptive analysis, the statistic results were obtained, considering finally a total of 33 variables to incorporate to the model. It was corroborated that the master adequacy for this analysis not only is not desirable, but also presents a good data adequacy, since the KMO statistic, indicating the common variance proportion between the variables analyzed, has a value of 0.891, a coefficient that is very close to the unit, which is more than the advisable value[2] for this kind of analysis. This indicates a perfect adequacy of the data to a factorial analysis model. By means of the spherical value Bartlett test, it can be assured that, if the critical level is higher than 0.05, then the null hypothesis of spherical value cannot be rejected. As corroborated in the analysis, the significance is almost perfect, since it obtains the value 0.000, lower than 0.05, thus the null hypothesis can be rejected, considering the adjustment of the variables by means of the ideal factorial analysis. Another important element that allows testing the necessary condition to continue with the ACP methodology is that, once the variables are introduced, the data obtained offer a positive defined matrix, which actually occurred in this study. For this analysis, the coefficient of partial correlation was calculated, which indicates the existing relation between two variables if the effect of the rest of the variables is eliminated from the model.

2. FACTOR EXTRACTION

The communalities were calculated; its values range between zero and one, that is, between the possibility that the common factors do not explain nothing from the variability of a variable, or that, on the contrary, the variable is explained by the common factors. In this way, it was corroborated that the variables such as client with a 0.942 communality, indicators with a 0.891 or products and/or services with 0.882, explain better the variance according to their participation in the factors or components resulting from the analysis, while variables such as documents informatics systems participate to a lower extent in the explanation of such variance.

The mathematical process developed by Harman (1980), by means of which, the selection of the main components of a sample is developed, is made based on the correlation matrix, of which, through the application of the corresponding factorial analysis, is extracted another denominated factorial. The columns of this factorial matrix represent a factor and the lines coincide in number with the total of variables observed. For every element of this factorial matrix, there is weight, load, weighting or factorial saturation and they are interpreted as correlation indices between the lines and columns, thus indicating the weight that each variable assigns to each factor.

After conducting this analysis, the result is that 7 components or main factors will be extracted. In the results obtained it can be seen that, from the component 7, the self-value starts to be lower than a unit and, also, the percentage of the accumulated explained variance increases to a 82.896%, value considered high enough to estimate that 7 is sufficient number of factors.

2 From 0.5 on, it is considered that the simple adequacy is good for a factorial analysis.

Once the number of components to be extracted is defined, the component and rotated components matrixes are obtained. These matrixes indicate the coordinates of each variable in each component and from there their inclusion in each component in one way or another.

The procedure that transforms the initial rotated factorial matrix, easier to interpret, consists on a linear combination of the first, which explains the same amount of initial variance. The rotated factors are intended to achieve that each of the variables have a correlation as close to one as possible, with one of the factors and correlations close to zero with the remaining ones, thus reaching high correlations with a group of variables and low with the rest. In order to make a simple interpretation, the factor rotation system was applied by means of the Varimax Normalization, converging such rotation in 11 itinerations, indicating that the extraction will be made for 7 components since, as explained previously, with this number of components more than the 80% of the variance explained is obtained.

Below, the components are listed based on the function of the variables incorporated.

Component 1. Seven variables are located in this first component: satisfaction, client loyalty, clients, selection, products and/or services, commercialization and principles. By analyzing these variables and their implication in the quality management of the service studied, the proposal was to denominate this component as «Basic Factor», this factor explains by itself only the 29.29% of the total variance, playing a major role among the rest of the components.

Component 2. It has 4 variables and explains the 15.66% of the total variance; this component was called «Actors Factor», since it involves variables related to the service suppliers involved in the cruise tourism reception service, leadership and society.

Component 3. It includes six variables that describe the main elements of the process approach, such as: activities-operations, material resources, personnel, documents, organization and motivation. Therefore, this component was denominated as «Processes Factor».

Component 4. It is composed of 5 variables: vision, values, objectives, planning and policy; thus the name is «Projection Factor».

Component 5. The variables of this components are: statistical techniques, costs, environment and indicators. This component grouped variables related to processes control and was called «Control Factor».

Component 6. It is composed of the variables: improvement, preventive actions, feedback and communication. These variables are the pillars of continuous improvement, thus the name «Improvement Factor».

Component 7. This is the last component and in it are grouped the variables: security and hygiene, informative system and technology. Taking into account the functions of these variables within quality management, it was called «Support Factor».

With the analyses made, the number of initial variables was reduced to 7 factors or main components, determining in this way, the variables that influence quality management of the cruise tourism reception service in the destination Santiago de Cuba.

The theoretical and practical usefulness the research conducted consists on the fact that the determination of the variables previously mentioned served as a basis for the design of a methodology for quality management of the cruise tourism reception service in Santiago de Cuba. Such methodology, by integrating the variables of greater influence in the quality of the service, contributes to the improvement of the decision-making process and improves the satisfaction of the cruise tourists in the destination.