

RESIDENTS' PERCEPTIONS TOWARD CRUISE TOURISM IMPACTS ON A COMMUNITY: A FACTOR AND CLUSTER ANALYSIS

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Cruise tourism is growing faster than any other sector in the tourism industry, producing different impacts on destinations. From a social and economic perspective, the interactions between the different actors of the exchange process – cruise passengers, crew, residents, and producers of the tourism products – can exert both positive and negative outcomes. To date, the impact of tourism has been investigated by taking into account the attitude of host population towards tourism development. Researches are mainly related to rural or urban case studies; so far less attention has been given to coastal tourism destinations. Furthermore, only a few studies have concentrated on the perception and attitude of residents towards cruise tourism development. Based on a literature review on community-based tourism, the aim of this paper is to analyse how local population perceives the impact of cruise tourism and which factors affect the relationship between those impacts and perceptions' formation.

The research involved data collection in Cartagena de Indias (Colombia), during the peak of the cruise season in 2009. In this period, the city has received 28 cruise ships for a total of 42936 cruise passengers and 18208 crews. Approximately 85% of the cruise passengers have disembarked and visited the city. In average, each day approximately 1300 cruisers have visited the city, but some days we can observe more than 3500 passengers and crews coming to the Old City. A questionnaire was designed to measure perceptions of the socio-cultural and economic impacts of cruise tourism on Cartagena's residents. Items included followed an in-depth review of literature. The questionnaire was drafted in Spanish and comprised 37 questions divided into two sections. The first one

was comprised of 22 items concerning the perceptions and attitudes of local people about cruise passengers and cruise tourism development. In this part, the interviewees were asked to indicate their level of agreement, using a five degree Likert type scale (ranging from «Total Disagreement» to «Total agreement»), regarding statements on (i) the positive and negative economic, social, and environmental repercussions that cruise tourism has on the city, (ii) the implementation of general policies (as, for example, policies to increase in the number of cruises and cruise passengers arriving to Cartagena) (iii) the consequences of cruise tourism on local welfare. The second part focused on demographic information of the respondents (15 items). Households were selected as the unit of analysis. In all, 1500 questionnaires were randomly distributed, and a response rate of 66,9% was obtained. The data – collection process was performed by trained ten interviewers directly supervised by one of the co – authors. The interviewers were given instructions regarding how to present the study to encourage the response of one adult member in the households selected. The interviewer left the questionnaire, and it was collected within the next 7 days.

The number and quality of the questionnaires collected allows one to run a statistical analysis of the local residents' perception and attitude. The quantitative analysis was approached in three parts: In the first one, a Correspondence Analysis is applied to reveal the underlying factors (or dimensions) in the data. This technique is a special case of Factor Analysis, where the input variables are qualitative. This procedure is carried out with the survey items in order to guarantee the absence of correlations between factorial scores. In the second part, based on the Correspondence analysis results, a hierarchical cluster analysis is introduced to find homogeneous groups. Cluster analysis consists of grouping similar objects according to their degree of similarity. Objects within each cluster are more closely related to one another than objects assigned to different clusters and each cluster can be distinguished from the others. Finally, in the third part, a Decision Tree is constructed to characterize and describe the grouping. This is a standard machine learning technique that has been used for a wide range of applications. The basic idea behind the Decision tree is to first identify prediction rules from the data and then illustrate them as a binary tree where each terminal node (leaf) corresponds to a class, while all the intermediate nodes represent measured variables. In this case, the model will be used as a form of discriminating analysis. The aim is to identify which variables are better predictors for classifying individuals in the different clusters, obtained through the previous analysis. The findings of the paper reflect both the overall opinions of the sample population and the perceptions of four relatively homogeneous opinion groups. From a general perspective, the results of the study show that the host population considers that tourism brings to the city much more advantages than disadvantages; therefore, in accordance with the classification of Doxey and taking into account that cruise tourism in the destination is still in an early phase of development, it can be stated that its residents are in the stage of «euphoria». Residents in particular acknowledge the economic benefits of cruise tourism. The cultural and social benefits are also perceived as an advantage, but to a low degree. From the other hand, it is recognized that cruise tourism creates different problems, including traffic congestion, over-saturation of the community's services and high price levels. But, considering the overall impact of the industry, local residents conclude that there is a positive balance between benefits from tourism and the costs it involves. This

appears to be based on the reasoning that employment opportunities will be created, and that tourism will act as a dynamic factor generally for the area. Therefore, in respect of this creation of future employment, it becomes especially important that local policy makers, responsible for the planning of tourism, should be sensitive to the population's expectations.

The factor analysis performed in this study identified five factors critical to successful community-based cruise tourism. These factors were as follows: (a) Inclusion of people associated with the cruise sector, (b) perception of agreement with statements about changes in lifestyle of the city, (c) perception of agreement with statements about changes in public places, (d) inclusion of people associated with the cruise sector and with a high educational level and (e) inclusion of people who live in small households and who are in agreement with favourable statements about tourism. The obtained factors reveal that one important variable discriminating residents is the participation or not in the job market of the cruise industry (their selves or relatives). ANOVA tests found that respondents differ significantly in their level of agreement with some survey items (p -value less than 0.05). The Decision Tree shows that the most discriminating variables to segment the population are: Cruise generates a negative effect on the lifestyle of the city; to have a job related with cruise sector and, to find a cruise passenger is a valuable experience. Additionally, hierarchical cluster analysis robustly demonstrates a simultaneous presence of different segments within the local community. By identifying coherent groups of individuals with common sets of views that distinguish them from other groups, cluster analyses offer a more carefully targeted approach to the segmentation of local residents. It must be noted that (as is usual in other studies) some demographic variables as gender or age are not discriminate variables implying that the clusters do not have a demographic profile: the determinant condition in defining the clusters is the level of participation in the tourism industry.

The four clusters obtained are as follows: Cluster 1 (the opposites), in opposition to the development of cruise tourism; Cluster 2 (the neutrals), without a clear opinion about the issue; Cluster 3 (the developers), that strongly the development of cruise tourism; and Cluster 4 (the tourism workers), concerned with the community's benefit from the cruise industry. The four segments of local residents are interrelated.

The study fills the void of research on community-based tourism development for the special segment of the cruise industry. Additionally, since there have been few studies conducted which have divided local residents into their respective clusters, empirical results of this study can be used as a theoretical base explaining how people's views differ on a given issue about cruise tourism development in their areas of residence. While it is difficult to generalize the findings of this study to other cruise tourism destinations in the Caribbean, it is believed that the current study offers insights into the complexities of local people's opinions regarding cruise tourism projects. With this knowledge, community-based tourism project developers and planners should be better equipped to not only understand these complexities, but also to design appropriate communication strategies targeting different segments of the concerned community to more effectively increase residents' support of a given project. Lastly, it is worth noting that the generality of this study's conclusions could benefit from testing through replication and extension to other

cruise destinations in the Caribbean region. Having other studies in the same zone could be useful to compare and to understand if the results of this study are robust. Replication of the study framework with local residents elsewhere is essential if the generality of the present findings is to be demonstrated. From the other hand, in order to have a better understanding of the factors that underlie perceptions and attitudes of residents toward the development of cruise tourism, future research must focus on investigating the reasons that lead to different attitudes and opinions of agreement or disagreement with development strategies.