

Original article

Procedure for the design of competitiveness indicators of a tourist destination

Procedimiento para el diseño de indicadores de competitividad de un destino turístico

Procedimento para a desenho de indicadores de competitividade de um destino turístico



José Antonio Mora Sánchez¹  0000-0003-1935-2594  jmoras@uo.edu.cu

Dainaze Calvente Suárez¹  0000-0003-4155-183X  dcalvente@uo.edu.cu

Rosario León Robaina¹  0000-0001-6800-5113  rosariolr@uo.edu.cu

Graciela Castellanos Pallrols¹  0000-0003-2542-5972  gcp@uo.edu.cu

Eddy Soria Leyva²  0000-0001-9999-5850  eddysoria@outlook.com

¹ Universidad de Oriente. Santiago de Cuba, Cuba.

² Iberostar Hotels & Resorts. Havana, Cuba.

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ABSTRACT

The context in which the tourism sector is developing in Cuba has been conditioned by a dizzying decline in income, largely associated with the spread of the SARS-CoV-2 virus and the post-pandemic effects of Covid-19. This behavior has brought with it the search for alternatives that would bring about imminent solutions. The need to assume new patterns to reach again the competitive position before the pandemic is a challenge for Cuba, which demands transforming changes from science. The objective of this work is to propose a procedure for the design of indicators to determine the competitiveness of the tourist destination Santiago de Cuba. For this purpose, a procedure based on multivariate analysis is proposed, which is carried out through a scientometric study that validates the main sources that support the competitiveness of destinations, as well as its dimensions and pillars. Documentary, statistical and exploratory analysis is also carried out. As main results, three

dimensions are obtained, which are disaggregated into five pillars for which eight general indicators are defined. In this sense, it is concluded that the destination is competitive; however, strategies must be designed to guarantee consumer loyalty and attract new segments.

Keywords: indicators; competitiveness; tourism destination; procedure.

RESUMEN

El contexto en el que se desarrolla el sector turístico en Cuba ha estado condicionado por una vertiginosa disminución de los ingresos, asociada en gran medida a la propagación del virus SARS-CoV-2 y los efectos postpandemia Covid-19. Este comportamiento ha traído consigo la búsqueda de alternativas que propicien soluciones inminentes. La necesidad de asumir nuevos patrones para volver a alcanzar la posición competitiva previa a la pandemia es un reto para Cuba, lo que demanda cambios transformadores acaecidos desde la ciencia. El objetivo de este trabajo es proponer un procedimiento para el diseño de indicadores que permitan determinar la competitividad del destino turístico Santiago de Cuba. Para ello se propone un procedimiento basado en el análisis multivariante, que se realiza a través de un estudio cuantitativo que valida las principales fuentes que sustentan la competitividad de los destinos, así como sus dimensiones y pilares. Se desarrollan a su vez el análisis documental, estadístico y exploratorio. Como principales resultados se obtienen tres dimensiones que se desagregan en cinco pilares para los cuales se definen ocho indicadores generales. En este sentido se concluye que el destino es competitivo, sin embargo, deben trazarse estrategias que garanticen la fidelización de consumidores y atracción de nuevos segmentos.

Palabras clave: indicadores; competitividad; destino turístico; procedimiento.

RESUMO

O contexto em que o setor de turismo está se desenvolvendo em Cuba foi condicionado por uma queda vertiginosa na renda, em grande parte associada à disseminação do vírus SARS-CoV-2 e aos efeitos pós-pandêmicos da Covid-19. Esse comportamento levou à busca de alternativas que ofereçam soluções iminentes. A necessidade de assumir novos padrões para retornar à posição competitiva anterior à pandemia é um desafio para Cuba, que exige mudanças transformadoras baseadas na ciência. O objetivo deste artigo é propor um procedimento para o desenho de

indicadores para determinar a competitividade do destino turístico de Santiago de Cuba. Para isso, propõe-se um procedimento baseado em análise multivariada, que é realizado por meio de um estudo cienciométrico que valida as principais fontes que sustentam a competitividade dos destinos, bem como suas dimensões e pilares. Também é realizada uma análise documental, estatística e exploratória. Como principais resultados, são obtidas três dimensões, que se desdobram em cinco pilares para os quais são definidos oito indicadores gerais. Nesse sentido, conclui-se que o destino é competitivo, porém, é necessário traçar estratégias para garantir a fidelidade dos consumidores e atrair novos segmentos.

Palavras-chave: indicadores; competitividade; destino turístico; procedimento.

INTRODUCTION

The origin of the notion of competitiveness dates back to Adam Smith, who emphasized the importance of producing at low costs, arguing that the freedom of markets would efficiently determine how the production of a country could satisfy the needs of others. Since then, the term competitiveness has been circulating in economic thought and has been appropriated by paradigmatic changes (Mendoza Fernández & Moreira Chóez, 2021). However, despite the criticisms that point to its self-destructive character, its individualistic nature and its almost exclusive dependence on economic growth, it is not until Porter's (1980) foundational proposal that this concept becomes useful, operative and dynamic.

The competitiveness construct is a complex concept in the sense that it contains a strong load of subjectivity, since it is difficult to discern with what or with whom the comparison is with (Ramírez Molina & Ampudia Sjogreen, 2018). In addition, it has a multidimensional character, based on the determination of the attributes of the economic entity that defines it (Lesmes Silva et al., 2020). If the number and level of transcendence of each factor in global competitiveness are added to this, the task becomes more complicated. Likewise, competitiveness can be applied to a wide range of economic entities, from a nation to a specific product or service, from a region, a municipality, a sector, a business corporation or an individual company (Jiménez Baños & Aquino Jiménez, 2012).

Competitiveness among tourist destinations serves as a means of evolution and continuous improvement. The existing rivalry in the markets to attract and maintain tourist flows in the region,

proposes improvements in terms of quality and other variables that can serve as distinctive features, influencing the purchase decision (Camara & Morcate Labrada, 2014).

Fundamentally, competitiveness is a phenomenon that is closely linked to the notions of market competition; therefore, it can be understood as a conformation between the internal and external strategies adopted by the company or country. The concept of competitiveness is also associated with a theoretical vision of the economic-productive process, which can cause difficulty in its measurement (Calvente Suárez et al., 2021).

The essence of competitiveness is centered on the competencies of each tourist destination. The management of destination planning and development should be based on a competitive model that enables the relationship between the different stakeholders involved, so that they offer products and services with added value that can sustain an advantage or benefit (Ibarra Cisneros et al., 2017).

The fundamental objective of competitiveness is to maintain or increase the real performance of citizens, which is reflected in the level and quality of life of that population (Leyva Carreras et al., 2017). From this perspective, competitiveness should not be seen as an end, but as a means for the improvement of the social indicators of the region in question (García Monsalve et al., 2021).

Cuba as a tourist destination is immersed in a crisis. After reaching the record figure in the history of tourism in the country in terms of tourist arrivals days, a figure reached in 2017, 4.7 million tourist days, there is evidence of a progressive decline in this indicator. Currently, competitors such as Jamaica manage higher figures, Jamaica reached the figure of 5 million in full Covid-19 in 2021. The above justifies the need to develop strategies to raise the competitive position of the destination.

The Santiago de Cuba destination obtained favorable results in tourism management before the pandemic period. In 2019, 172 100 tourists/days arrived in the destination, while the main market segment was Canada with 9 215 tourists/days. Havana, Sancti Spíritus, Cienfuegos and Camagüey were identified as the main competitors of this tourist destination. For this purpose, several selection criteria were considered, such as: the tourist modality with which the destination is marketed and its market segments.

These destinations are generally marketed through the city tourism modality and one of their main markets is Canada. The comparative analysis of tourist arrivals in Santiago de Cuba with the four defined competitors results in the third position in the ranking, below Havana and Sancti Spíritus in

terms of tourist arrivals/total days. In last place in terms of tourist arrivals/days of its main market segment is Canada. These data were obtained from the statistical yearbook of the destinations Santiago de Cuba, Havana, Sancti Spíritus, Cienfuegos and Camagüey.

The crisis caused by Covid-19 has had a direct impact on tourism development in Santiago de Cuba. The closing of borders and fluctuations in customer flows have motivated the need to devise new strategies to ensure the loyalty of consumers and the attraction of new market segments. The destinations that compete with Santiago de Cuba show favorable indicators in the pre- and post-pandemic period.

The use of theoretical and empirical methods such as documentary review, brainstorming, unstructured interviews and scientific observation, allowed detecting the following deficiencies: there is a decrease in tourist flows in the destination Santiago de Cuba, depreciation of the attractions of the destination Santiago de Cuba due to tourism management, lack of knowledge about the current phase of the life cycle of the tourist destination Santiago de Cuba and waste of the attractions that the destination has for tourism management.

In view of the above, the general objective is to propose a procedure for the design of indicators based on multivariate analysis tools, which will make it possible to determine the competitiveness of the Santiago de Cuba tourist destination.

The contribution of the research is framed in the design of indicators to determine the competitive position of a tourist destination and thus propose strategies and actions to improve its position and management through the use of statistical tools of multivariate analysis such as factor analysis, cluster analysis and scientometric analysis.

MATERIALS AND METHODS

This article is descriptive and follows a cross-sectional design. In order to define the system of indicators to evaluate competitiveness, factor analysis was used using a text mining approach with VOSviewer software. This allows the analysis of the co-occurrence (relationship between the variables analyzed) of the keywords cited in scientific studies and is used for the construction and visualization of the associated bibliometric networks (journals, researchers and individual publications). This analysis is performed on the basis of the interrelated set of citations and co-citations, bibliographic coupling and co-authorship relationships. It also offers within its benefits a

text mining functionality that can be used to visualize cooccurrence networks of important terms extracted from the body of scientific literature, related to the object of study, allowing the filtering and creation of a database with a considerable volume of scientific research.

RESULTS AND DISCUSSION

The main contribution of this research is the proposal of an instrument composed of three main stages. Initially, four databases of more than 2000 articles were created for subsequent analysis and the most cited keywords were adopted as criteria for defining indicators. Secondly, a documentary review was used to verify that the proposed indicators have a preliminary relationship with the written theory. The research is developed through the exploratory study of cited terms. This makes it possible to contrast a model constructed in advance, in which the researcher establishes *a priori* the total set of relationships between the elements that make up the construct under analysis. In a third stage of the research, a procedure was designed to evaluate the destination's competitiveness by means of indicators that contribute to the decision-making process, as well as to the design of strategies and corrective actions.

The proposed procedure is based on the following principles:

- Participatory nature: the application of the procedure implies at all stages the active participation of all those involved, the decision-making bodies in charge of implementation, as well as the specialists defined in the proposal
- Flexibility or adaptability: given by the possibility of assessing its application in other destinations with similar characteristics to those of the object of analysis, making the corresponding adjustments
- Logical consistency: according to the execution of its steps in the sequence proposed in correspondence with the execution logic of this type of study
- Generality: for the possibility of its extension as a methodological tool to develop similar studies in other tourist destinations within and outside the national scope

The procedure detailed in figure 1 has competitiveness assessment at its core and is based on the functions of the administrative cycle (planning-organization-direction-control). In addition, it contributes in a general way to the decision-making process, due to its transversality to all processes. It is composed of three stages: Taxonomy, Diagnosis and Design, which are broken down into five

phases. It focuses on the synergies established between the results of the fundamental variables that make up the "destination competitiveness" construct defined from theory (Phase I) and the factors that characterize each pillar in the destination (Phase II).

The proposed design of indicators is therefore based on the incorporation of the destination's conditions, i.e., a proposal for measuring or evaluating competitiveness is established on solid objective bases. This makes it possible for the indicator to characterize the destination and to be used based on its potentialities or insufficiencies (Phase III).

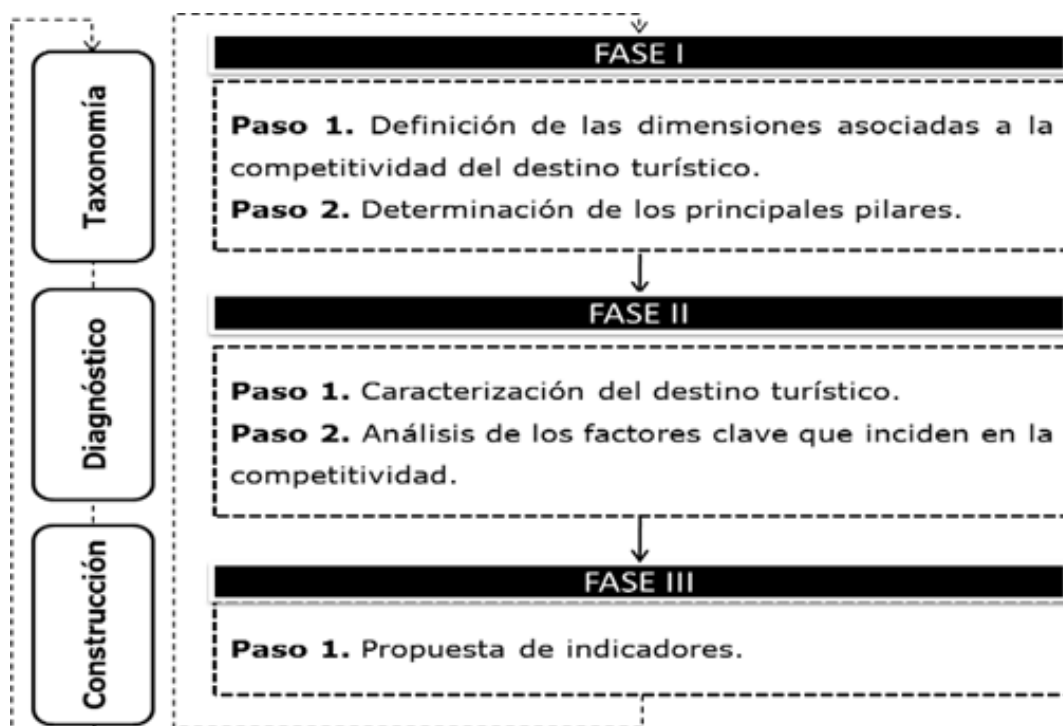


Figure 1. Procedure for determining indicators of competitiveness of tourist destinations

Source: Own elaboration

To initiate the implementation of the procedure, it is proposed to create a Committee of Experts from a tentative list of no more than 19 specialists (managers, academics and employees of the Ministry of Tourism), who, based on their expertise and knowledge of the sector, will be able to issue criteria on the particularities of the study. DECISION software version 3.0 is proposed for their selection.

Phase I - Taxonomy. The purpose of this phase is to describe the relationships established (from the specialized literature presented in the Web of Science and Scopus databases) between the dimensions, categories and variables that characterize the term competitiveness of tourist destinations. All of which is synthesized in a scientometric analysis that offers the level of co-occurrence between the terms that describe the aforementioned construct and allows the selection of the most relevant ones.

Step 1: Definition of the dimensions associated with the competitiveness of the tourism destination.

Scientometric analysis is a technique that has gained popularity in recent scientific research due to its advantages for the development and substantiation of the literature review, making it possible to delve into the relationships that underlie both the contents of scientific manuscripts and the collaboration networks among their authors. For this reason, its application is proposed in the determination of the dimensions that characterize the competitiveness of a destination, considering the following aspects:

- Establish the search strategy in Web of Science and Scopus databases
- Create a database from the bibliographic records exported from these databases
- Process the bibliographic records obtained in the software
- Generate network visualizations
- Interpret the information obtained

In particular, the search strategy is based on the following:

1. First filtering: its objective is to select the most relevant scientific articles in the area, considering the consultation of multiple keywords with search alternatives that recognize the most general terms diagnosed
2. Screening process: generated from the fields: title, abstract and full text
3. Snowball iteration process: it provides relevant items that were not considered in the first filtering
4. Interpretation of the results: the relationships between terms, the co-occurrence of key words, the most cited terms, the theoretical gaps and the most outstanding authors in the subject are analyzed

Step 2: Determination of the main pillars.

The principal component analysis method will be used by means of an exploratory factor analysis, which is divided into three stages:

- a) Verification of assumptions: it is necessary to confirm compliance with the assumptions of validity of the test, that is, that its use is valid for the explanation of the behavior of the factors that characterize the development of the destination.
- b) Visual inspection of the correlation matrix of correlations: this action is performed with the aim of checking whether the variables are linearly associated, i.e. that the correlations between them are not zero and, consequently, it makes sense to apply this technique. Since this step has the disadvantage that, as the number of variables studied increases, it becomes more difficult to visualize the values of the matrix, other complementary checks are suggested.
- c) Verification of the determinant (D) of the matrix of sample correlations: the derivation of this matrix includes by default the calculation of its determinant, a value that also allows to verify the presence of high intercorrelations between the variables that compose the construct. There will be evidence of high correlations as long as ($D \sim 0$), i.e. their resulting significance is very close to zero (preferably below 0.05).
- d) Bartlett's test of sphericity: this test follows an asymptotic chi-square significance of the form $\frac{X^2_{p(p-1)}}{2}$ described under hypothesis testing:
 1. H_0 : No high correlations between the variables under study
 2. H_1 : There are high correlations between the variables under study
 3. The decision rule in this case is derived from the null value of the statistic, for all of which H_0 is accepted and H_1 is rejected
- e) The Kaiser-Meyer-Olkin Index (KMO): provides the relationship established between a point variable and the rest of the matrix. The higher the index, the lower the amount of partial correlation coefficients associated with the variable under analysis.

This analysis enables the extraction of the principal components or key variables associated by co-occurrence or citation index. In the search for the degree of simplification of the resulting matrix, the method rotates the components under the principle of simple structure and percentage of total variance explained.

Finally, the relationships between the main terms that emanate from the scientometric analysis are obtained.

Cluster analysis: This technique attempts to identify relatively homogeneous groups of cases (or variables) based on selected characteristics. It uses an algorithm that starts with each case (or each variable) in a different cluster and combines the clusters until only one cluster remains. It explains the relationships that are established under binary code (0;1) as a classification scale.

$X_{ij} = 0$ - There is a relationship between the point variables under study

$X_{ij} = 1$ - There is a relationship between the point variables under study

Where:

i- author or authors that refer to the variable under study j, with $i = 1, 2, \dots, n$

j- variable under study with $j = 1, 2, \dots, m$

Phase II - Diagnosis. This phase involves the determination of the key factors that affect the competitiveness of the destination. To this end, it begins with a more general characterization of the main aspects that make it unique, followed by an analysis of its potentialities and insufficiencies which, subsequently, have an impact on the tourism development of the territory. This phase is broken down into two steps, which are detailed below.

Step 1: Characterization of the tourist destination.

This step takes into account the main elements that describe the tourist activity in the destination. In general, the socioeconomic and socio-demographic characteristics, its historical-cultural heritage, its nature and the wealth of sites of interest are described. Sustainability, infrastructure, equipment, services, services, technology, as well as the interactivity of the client with the environment, constitute new variables.

Step 2: Analysis of the key factors affecting competitiveness.

For the development of this step, the bank of variables that affect the development of the destination must be delimited. This is based on the analysis of the pillars defined in the previous stage. For its diagnosis, the macro and micro-environment dimensions are integrated, for which the description of the PESTEL dimensions and the actors involved, corresponding to each pillar, is proposed.

Once the environmental factors are known, the strengths and weaknesses of the destination are identified, taking into account its potential and limitations. These factors constitute the most general result of the second phase, which provides the objective conditions for the design of destination competitiveness indicators.

Phase III - Design. Once the dimensions and pillars are known from the resulting key factors, it is finally reached phase 3, which aims to propose the main indicators for the evaluation of the competitiveness of a destination. For this purpose, the Conceptual Map is used as an association technique, determining the relationships between each one. The proposal is summarized in three tasks:

1. Conceptualization of the indicator: it is conceived from its definition based on the criteria established by the most cited authors in the Phase II study.
 - Indicator selection: from the tentative list of indicators, the most relevant ones are selected according to expert criteria and evaluated based on: availability of information, relevance of the indicator, objectivity, flexibility and generalization.
2. Operationalization of the indicator: calculation formulas or quantitative techniques are designed to facilitate the decision-making process for its follow-up and control. In order to make the implementation of the instrument feasible, a descriptive sheet (Table 1) is suggested to provide, in general terms, the necessary steps for its determination.

Table 1. Indicator sheet

Code		Name		
Definition				Strategic level
Calculation formula		Type of indicator	Source of data	Measuring frequency
Low limit	High limit	Goal	Type of calculation	UM
Person in charge of the indicator			Indicator revision frequency	

Source: Own elaboration

The main results obtained from the application of the instrument provide feedback for the first phase. In this phase, the changes and transformations that can generate the creation of new indicators or the selection of other existing ones, which facilitates the generalization of the proposal to other

destinations and its development in conditions different from those diagnosed in its implementation. The main results of the implementation of the proposed procedure are as follows:

Application of the proposed procedure for the design of competitiveness indicators in the Santiago de Cuba destination

Validation of the group of experts: For the formation of the Committee of Experts, a total of 19 specialists were selected: academics, directors of hotel and non-hotel entities in the destination, as well as specialists from the Ministry of Tourism and specialists from the sector's Training Center. From the use of the computer program DECISION v. 3.0, a total of 13 experts were obtained, with a significant knowledge coefficient ($K_c \geq 0.9$). These experts will be used to obtain the required evaluations, according to the objectives of each phase of the proposed procedure and its respective steps.

Phase I. Taxonomy. Factor analysis was applied in this research as part of the scientometric analysis associated with the keywords that make up the thematic of tourism indicators, under the search criterion, "TOURISM DESTINATION INDICATOR", using the option "FULL COUNTING". It was found that in the last period of publications (2017-2022) in the Scopus database, 1003 publications corresponding to a total of 405 authors have been indexed, for a total of 819 keywords.

A first filtering was carried out under the criterion "ONE MINIMUM NUMBER OF OCCURRENCES OF A KEYWORD" (one is chosen as a minimum of cooccurrence among the keywords), which shows that the terms "sustainable tourism development" was cited 35 times, "tourism management" 11 times and "recreational facilities" once, this last criterion was assumed because in the opinion of the researchers it is an aspect to be considered for positioning tourist destinations, as it is rarely used it constitutes a theoretical gap.

In general, the observed concurrences allow to establish three groups from which the set of indicators will be obtained (Figure 2). After applying a final filter and excluding the keywords that, in the opinion of the researchers, were not related to the study, the result was a scientometric graph composed of 650 items, distributed in 32 clusters.

An even concentration is observed between the categories "sustainable tourism development" and "tourism management". The terminologies with the highest number of citations "sustainable tourism development" and "tourism management" were referenced in the period between 2019 and 2020

according to the range shown in the graph in relation to the color of the nodes. The terms referenced in periods closer to the present are represented with yellow color, e.g. "cultural sector".

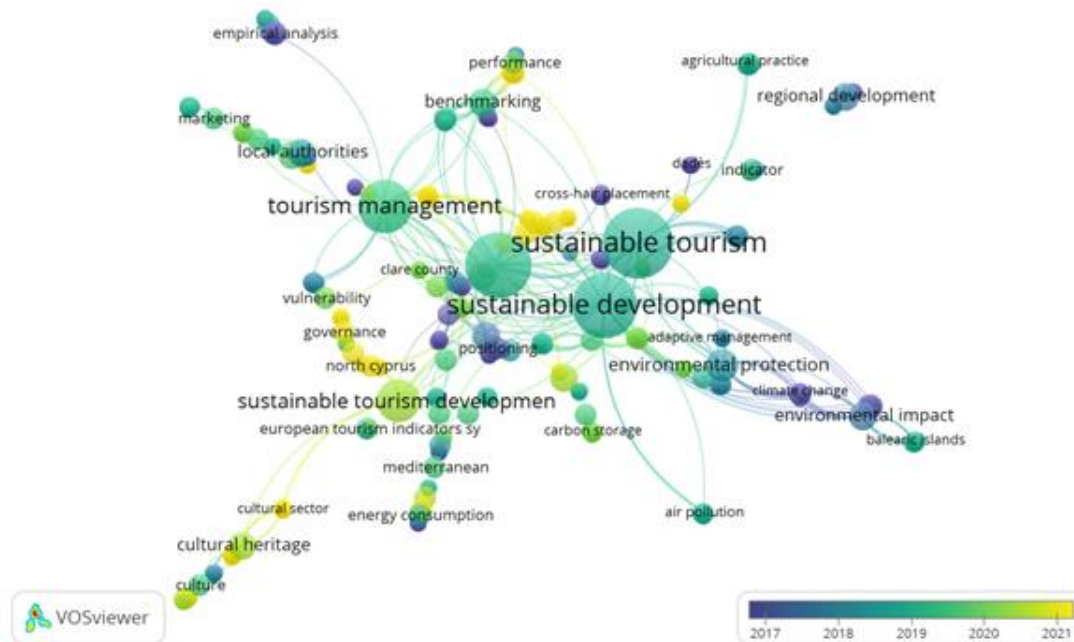


Figure 2. Factor analysis associated with the search criterion "TOURISM DESTINATION INDICATOR"

Source: Network Visualization graph from the VOSviewer results viewer

Of the 405 authors who have written the 1003 scientific papers related to the topic in question, two authors have the highest results, Zaman and Modica. On the one hand, Zaman has four publications with a citation index of 708, of which the publication with the highest index was "Tourism development, energy consumption and environmental Kuznets Curve: trivariate analysis in the panel of developed and developing countries" with 324 citations. On the other hand, Mónica has three publications with a total citation index of 25, where the publication with the highest index was "Residents' satisfaction with tourism and the European system of tourism indicators in southern Sardinia" with 17 citations.

The relationship established between these first two terms and the one with the lowest citation "recreational facilities" is uneven, i.e., it is grouped at a low correlation distance due to its low co-occurrence index ($IO = 1$).

Subsequently, three analyses were carried out using the three groups identified in order to define the indicators for each of the groups, which yielded the following results.

In the first group, sustainable tourism development, the search criterion "SUSTAINABLE MANAGEMENT AND TOURISM" was used for the period (2010-2022), with 565 scientific papers appearing with a total of 1773 authors and 3637 keywords. The item with the highest co-occurrence related to the specific topic was "maintainable sustainable development" with a frequency of 306 times cited. The size of the node confirms that the most cited item was the one mentioned above (Figure 3).

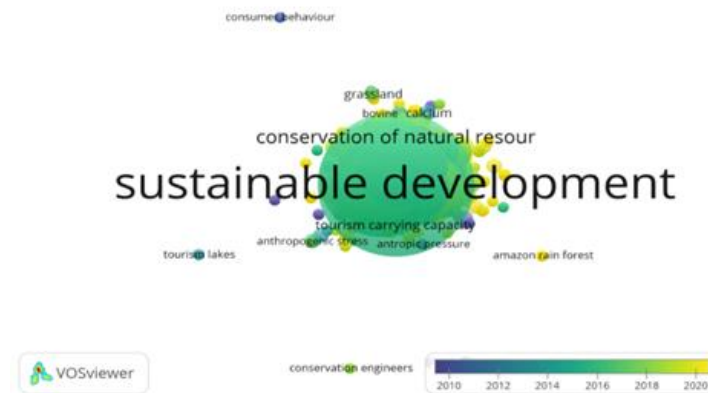


Figure 3. Factor analysis associated with the search criterion "SUSTAINABLE MANAGEMENT AND TOURISM"

Source: Network Visualization graph of the VOSviewer results viewer

Figure 4 is composed of 3506 items, distributed in 66 clusters. The main results show:

- The key word with the highest relationship to the terminology under study is associated with "natural resource conservation"
- The terminology with the highest citation "maintainable sustainable development", was referenced in the period between 2016 and 2018 according to the range shown in the graph in relation to the color of the nodes. The terms referenced in periods closer to the present are represented with yellow color, example "Amazon rainforest"
- A centered and symmetrical clustering with respect to the search term is observed
- Disparately, terms associated with conservation engineering, lake tourism, Amazon rainforest and consumer behavior are isolated

In the second cluster, tourism management, the search criterion "GOVERNMENT AND MANAGEMENT AND TOURISM AND POLICIES" was used for the period 2005-2022, with 1101 scientific papers appearing with a total of 2694 authors and 6011 keywords. The item with the highest co-occurrence, related to the specific topic was "Tourism management" with 212 citations. The node size confirms that the most cited item was the one mentioned above (Figure 4). The graph is composed of 5836 items distributed in 70 clusters.

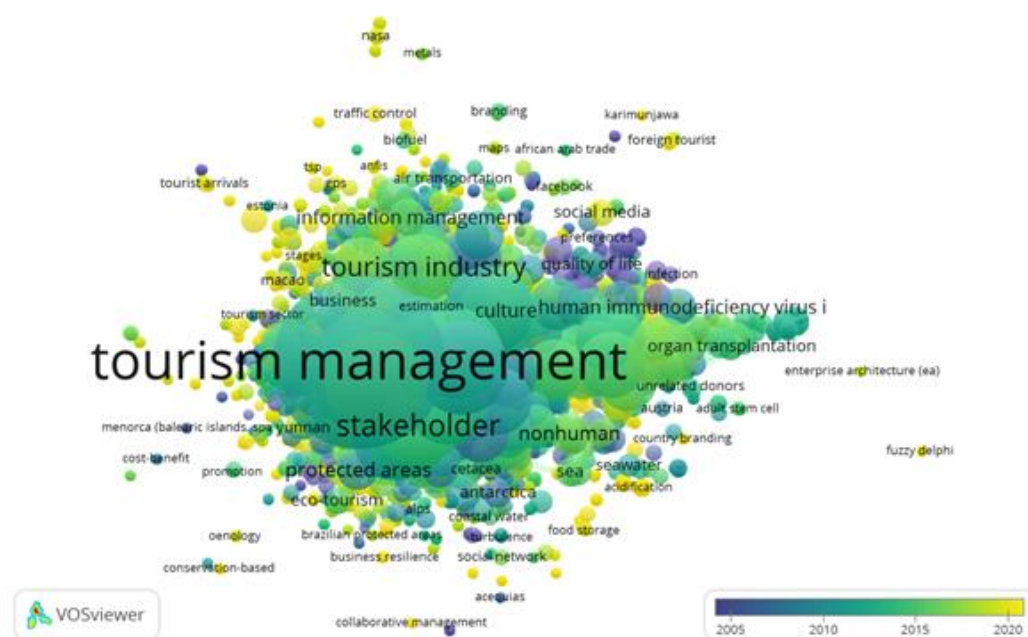


Figure 4. Factor analysis associated with the search criteria "GOVERNMENT AND MANAGEMENT AND TOURISM AND POLICIES"

Source: Network Visualization graph of the VOSviewer results viewer

The main results show:

- The key words most closely related to the terminology under study are associated with "tourism economics", "local policy management" and the term "tourism market"
- The terminology with the highest citation "Tourism management", was referenced in the period between 2013 and 2015 according to the range shown in the graph in relation to the color of the nodes. The terms referenced in periods closer to the present are represented with yellow color, example "foreign tourism"

- A centered and symmetrical clustering with respect to the search term is observed
- The terms associated with belonging to and managing the authority of a destination are isolated in a disparate manner

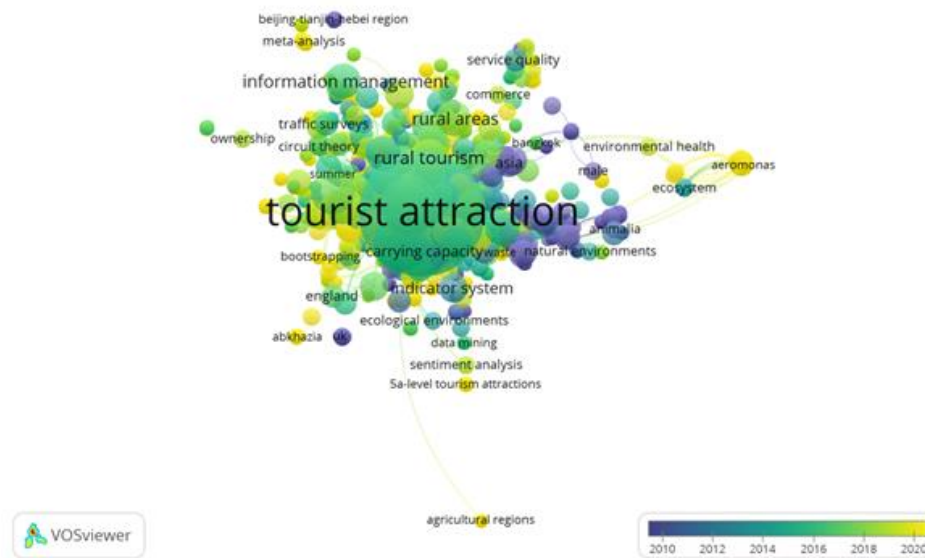


Figure 5. Factor analysis associated with the search criterion "TOURISM AND INDICATORS AND ATTRACTIONS"

Source: Network Visualization graph of the VOSviewer results viewer

In the third group, recreational facilities, the search criterion "TOURISM AND INDICATORS AND ATTRACTIONS" was used for the period (2010-2020), where 284 scientific articles with a total of 860 authors and 1892 keywords were observed. The item with the highest co-occurrence related to the specific topic was "Tourist attractions" with an occurrence of 108 times cited. The node size confirms that the most cited item was the one mentioned above (Figure 5). The graph is composed of 1644 items distributed in 45 clusters. The main results show:

- The keywords most closely related to the terminology under study are associated with "heritage tourism" and "cultural tourism"
- The terminology with the highest citation "Tourist attractions", was referenced in the period from 2016 to 2018 according to the range shown in the graph in relation to the color of the nodes. The terms referenced in periods closer to the present are represented with yellow color, example "meta analysis"

- A centered and symmetrical clustering with respect to the search term is observed
- The terms associated with the "agricultural regions" node are isolated in a disparate manner

The first scientometric analysis carried out, associated with the search criterion "TOURISM DESTINATION INDICATOR", yielded two groups of terminologies most closely related to the techniques used above: "sustainable tourism development" and "tourism management". A third group associated with "recreational facilities" was found to be disparate, i.e., it is grouped at a distance with little relation due to its low co-occurrence index ($IO = 1$), the third criterion is assumed because it is referenced in current research, therefore, it is considered a theoretical gap. Subsequently, three scientometric analyses were performed for each of the groups.

The first analysis corresponding to the group "sustainable tourism development" showed that the key word with the highest correlation with respect to the terminology under study is associated with "conservation of natural resources". From the second analysis carried out on the "tourism management" group, it was obtained that the keywords with the highest relationship with respect to the terminology under study are associated with: "tourism economics", "local policy management" and "tourism market". With the third scientometric analysis of the last group "recreational facilities", the keywords with the highest relationship with respect to the terminology under study were defined as: "heritage tourism" and "cultural tourism". In summary, as a final result of the factorial analysis, the following are considered as fundamental pillars that describe the destination:

1. Environmental impacts of tourism management
2. Social impact of tourism management
3. Inclusion of tourism activity in the development plans of Santiago de Cuba destination
4. Potentialities for event management in the destination of Santiago de Cuba
5. Current status of the tourist destination Santiago de Cuba

Phase II. Diagnosis

Step 1: Characterization of the destination Santiago de Cuba.

Santiago de Cuba, capital of the province of the same name, is located in southwestern Cuba, facing the Caribbean Sea. It was founded by the Spaniards in 1515 and is known mainly for its colonial architecture and its revolutionary history.

The variety of its historical-cultural heritage has become one of the most important tourist attractions in the region, highly significant within the tourism activity that has been developing in the territory. With a representative number of National Monuments and World Heritage Sites, it is destined to promote city, cultural, historical and event tourism. The development of tourism is closely linked to the cultural identity of the region and the promotion of its cultural offerings.

Santiago de Cuba offers countless possibilities not only for its history, culture and nature, but also for the wealth of interesting sites in these scenarios.

This city holds the Honorary Title of Hero of the Republic of Cuba and the Order of Antonio Maceo, in recognition of the history forged by the people of Santiago de Cuba in the different stages of the struggle. Privileged by its patrimonial wealth, two Cuban sites distinguished by the United Nations Educational, Scientific and Cultural Organization with the title of World Heritage Site are located here: the Castle of San Pedro de la Roca (El Morro) and the La Isabelica Coffee Plantation Museum, one of the ruins of the first French settlements located among its hillsides. In addition, Santiago de Cuba's tourist region includes the Baconao World Biosphere Reserve, the area of Guamá related to Bahía del Mazo and the northern subregion of the Sierra Maestra linked to El Saltón. Along with some twenty important museums and pleasant places such as: cabarets, discotheques, piano bars and nightclubs.

Step 2: Analysis of the key factors affecting competitiveness.

1. Environmental impacts of tourism management: Santiago de Cuba has a subtropical climate with warm temperatures between 20 °C and 35 °C. Basically the rainy period (May-October) and the dry period (November-April) are appreciated. Santiago is located in the south of the province, with a territorial extension of 3,149 km² of the 6,343.21 km².

Called Hero City and second in importance of the Island, it is bathed to the south by the coasts of the Caribbean Sea and has a total area of 6 170 km²; it is bordered on the west by the province of Granma, on the north by Holguín and on the east by Guantánamo.

It has a population of more than 1,053,837 inhabitants. Due to its exceptional geographical conditions, it was the first capital of the country until 1556, when it was designated San Cristóbal de La Habana. Its irregular relief contributed to the development of an urban scenery where avenues

and streets rise or descend between the sea and the mountains and multiple architectural styles coincide in the city, from the most elementary baroque to the most refined neoclassical.

2. Social impact of tourism management: the culture and idiosyncrasy of the inhabitants of the destination make up one of the best attractions for consumers from different latitudes. It has always been one of the enclaves of traditional Cuban music. It has an enviable intangible wealth of customs, traditions, natural, historical, cultural and anthropic resources that make it one of the fundamental epicenters of Cuba as a destination. Its identification as the "Capital of the Caribbean" singles out the typical idiosyncrasy of its people.

It is recognized for being the land where the most important historical events of the nation took place and the creator of the most famous musical rhythms, the eminently Creole genres such as the bolero and the son, which originated in its bosom.

3. Inclusion of tourism activity in the development plans of the Santiago de Cuba destination: the tourism sector in the destination, due to its multiplier effect, has contributed to improving the quality of life of the host population. This has conditioned the development of numerous infrastructures such as transportation, communications and increased employment levels.

In this sense, more than 12% of local development plans in the province are directly and indirectly oriented towards tourism. This provides an accelerated participation of different actors (government, agencies, academic institutions) which, given the conditions, requires higher levels of integration and training of the human resources involved.

4. Potentialities for event management in Santiago de Cuba: Santiago de Cuba is the second most important city in the country and the only one that holds the title of Hero of the Republic of Cuba. It combines multiple values and attractions that allow visitors to get in touch with the idiosyncrasy of its people, the culture and history of the place, while enjoying the exotic nature. It preserves the urban and architectural particularities inherited from the Spanish, African and French mixture. Its historic center shows sites of high monumental value.

It is the venue of transcendental events such as the Caribbean Festival, the International Trova Festival "Pepe Sánchez" and the International Documentary Festival "Santiago Álvarez in Memoriam". It has important scientific centers such as the Universidad de Oriente and the Centro de Biofísica Médica. In addition, it has the Heredia Convention Center, and important hotels such as the Meliá

Santiago, Las Américas and San Juan, the latter being the venue of the XVI International Symposium of Social Communication.

5. Current status of the tourist destination Santiago de Cuba: official data from ONEI express that in 2018 the tourist destination Cuba reached its highest figure, 4.7 million tourist days. Since that period the figures of annual arrivals to the region have shown a decreasing trend. This trend has been conditioned by different factors, including the fall of the Thomas Cook tour operator in 2019, the sanctions imposed by the U.S. government and Covid-19. The tourist destination Santiago de Cuba in 2020 had a decrease of 91 % of tourist arrivals compared to 2018, it is known that the figures continue to show decreasing levels in the current year.

The characterization of each pillar allows for the scrutiny of the factors that affect the competitiveness of the Santiago de Cuba tourist destination. For this purpose, the brainstorming technique is used in the collection of information through unstructured interviews with the 13 experts validated preliminarily for the implementation of the proposal.

1. Disappearance or degradation of natural areas
2. Underutilization of the potentialities of the tourist destination
3. High benefits generated by the multiplier effect associated with the activity
4. Insufficient articulation of the destination's territorial strategies and plans with the tourism sector
5. High potential in the destination for the development of event tourism
6. Dissatisfaction of external clients due to the decommercialization of some tourist facilities and products in the territory
7. Decrease in tourist flows/days
8. Price increases
9. Shortage of supplies
10. Development of historical and cultural attractions

Phase III. Construction. The above analysis made it possible to define the index, sub-indices, pillars and indicators of the study (Figure 6). The conceptual map resulting from the competitive analysis of the Santiago de Cuba tourist destination shows the disaggregation into eight variables (resulting from the scrutiny of the 10 key factors emerging from the diagnosis) and five pillars

associated with three main strata, defined on the basis of the keywords obtained multivariate in the clusters of the graphs associated with the results viewer of the VOSviewer software.

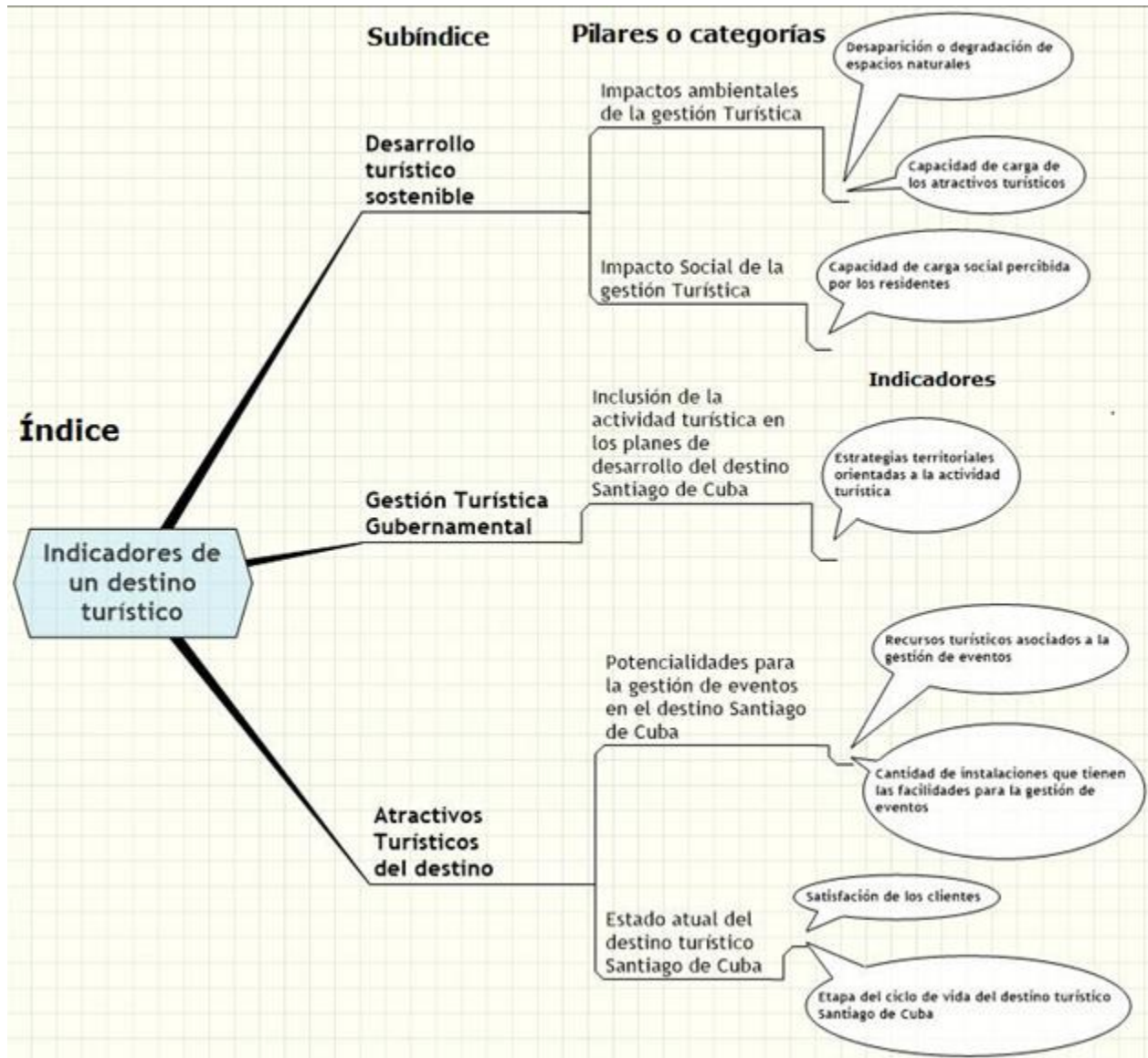


Figure 6. Conceptual map of the Index "Competitive analysis of the Santiago de Cuba tourist destination"

Source: MINDMANAGER v.X5 software output viewer

The proposed indicators for the destination are based primarily on these relationships, as shown in table 2.

Table 2. Proposal of indicators to determine the competitiveness of Santiago de Cuba as a destination

Code	Name	Definition	Level	Formula	Type
I-1.1	Carrying capacity of tourist attractions	<ul style="list-style-type: none"> STV- Total surface area per visitor V- Visiting time 	Territorial	$CCF = \frac{STV}{m^2 \times TV}$	Quantitative
I-2.1	Social carrying capacity perceived by residents (CCS)	<ul style="list-style-type: none"> The social carrying capacity refers to the degree of assimilation of the tourist activity by the residents of the destination under study (CCS) 	Territorial	Surveys	Qualitative
I-3.1	Territorial strategies oriented to tourism activity	<ul style="list-style-type: none"> ETOAI- Territorial strategies oriented to tourism activity TRD- Total resources of the destination 	Territorial	$ETO = \frac{ETOAI}{ET} \times 100$	Quantitative
I-4.1	Tourism resources associated with event management	<ul style="list-style-type: none"> Rtage- Tourism resources associated with the management of events TRD- Total destination resources 	Territorial	$RTAGE = \frac{Rtage}{TRD} \times 100$	Quantitative
I-4.2	Number of facilities that have facilities for event management (CIFGE)	<ul style="list-style-type: none"> Cifge- Number of facilities that have facilities for event management CIDT- Number of facilities dedicated to tourism 	Territorial	$CIFGE = \frac{Cifge}{CIDT} \times 100$	Quantitative
I-5.1	Customer satisfaction (SC)	<ul style="list-style-type: none"> Social carrying capacity refers to the degree of assimilation of tourism activity by the residents of the destination under study (CCS) 	Territorial	Surveys	Qualitative

I-5.2	Santiago de Cuba Tourism Destination Life Cycle Stage (ECVDT)	<ul style="list-style-type: none"> Defining the destination's stage of development will allow us to draw up strategies focused on enhancing its commercialization 	Territorial	Unstructured interviews to experts	Quantitative
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Source: Own elaboration

Secondly, they are selected by means of Kendall's non-parametric test, under a $W = 0.938$ and a $p = 0.00$. Therefore, there is sufficient empirical evidence to accept H_0 and reject H_1 . There is agreement between the criteria given by the 13 experts involved in the study. On the other hand, the analysis of the average ranks yields seven main indicators under the criteria set out in the methodological design.

The theoretical references analyzed show a disparate conglomeration towards the terms "governmental tourism management" and "sustainable tourism development". A theoretical gap is observed in the citation of "recreational facilities", which is assumed because of its relevance in relation to the objectives of the study to position tourist destinations.

Santiago de Cuba is competitive with respect to three other destinations in the country in terms of tourist arrivals; however, with respect to the incidence obtained after applying the instrument, it is below the average ranking.

The analysis yields three dimensions that are broken down into five pillars, for which six general indicators are proposed to make it possible to measure, control and monitor the competitiveness of the tourism destination.

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Conflict of interest

Authors declare that they have no conflicts of interest.

Authors' contribution

All the authors reviewed the writing of the manuscript and approve the version finally submitted.



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