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Additional Information

Key factors in tourism management to improve competitiveness in Latin America

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Abstract

Purpose – This paper analyzes tourism competitiveness in Latin America, providing a country-level ranking of tourism competitiveness. The study also identifies which areas of management to focus on in order to increase competitiveness in each case.

Design/methodology/approach – The study is based on the variables used by the World Economic Forum (WEF) to measure tourism competitiveness. The DP₂ distance method is used to create a synthetic indicator. This method helps identify which areas best explain differences in competitiveness between countries.

Findings – In tourism, the most competitive Latin American countries are Costa Rica, Chile, Panama, Mexico, and Uruguay. The areas that best explain the differences between countries relate to cultural and natural resources, the implementation of information and communication technologies (ICTs), international openness, and transport infrastructure. These are therefore priority areas for tourism managers.

Practical implications – This paper provides detailed analysis for each country. The situation in each country is presented in terms of the key areas highlighted by the analysis. This approach can aid the individual decisions of companies and public managers, thus enhancing tourism competitiveness. This greater competitiveness can strengthen the tourism sector, which is crucial in uncertain times.

Originality/value – Based on a synthetic indicator, this research offers the first country-level analysis of tourism competitiveness in Latin America. The study is also novel in its ability to detect the areas where action should be taken to improve tourism competitiveness. This analysis offers an alternative to the World Economic Forum (WEF) Travel & Tourism Competitiveness Index (TTCI), which has certain weaknesses. The results can help enhance tourism competitiveness in Latin American countries through the specific recommendations presented in this paper.

Keywords: synthetic indicator, competitiveness, Latin America, tourism

Paper type: Research paper

1. Introduction

Tourism has become an important contributor to the gross domestic product (GDP) of many countries (Ferrari *et al.*, 2021). Globally, it represents 10.3% of production and is directly or indirectly responsible for 10% of jobs (WTTC, 2020). Moreover, tourism can improve the quality of life of those residing in tourist destinations, if adequately planned (Cárdenas, 2012). Given its potential to create employment and wealth, many countries have made tourism a key part of their development strategy (Joshi *et al.*, 2017; Andereck *et al.*, 2007; Jiménez *et al.*, 2014), leading to dependence on this sector in many cases (Martín *et al.*, 2020; Dhiman and Arora, 2010). In many countries, tourism activity has overtaken traditional leading sectors (Mendola and Volo, 2017; Martín *et al.*, 2014). In addition to its direct impacts, tourism activity has additional knock-on effects, such as improved infrastructure, better service provision, improved tax collection, and the attraction of foreign investment (Gómez-Vega and Herrero-Prieto, 2018). In the current context of economic uncertainty, dependence on tourism activity has raised concerns among many governments. Historically, tourism has been heavily affected by changes in the socioeconomic, health, and political contexts (Novelli *et al.*, 2018). There is a growing feeling that the current crisis may lead to major changes in this sector with lasting effects (Sigala, 2020). In a situation of uncertainty in which many countries will be affected by a long-term tourism crisis, improving tourism competitiveness is vital. Competitiveness is a sign of the strength of the tourism sector in each country (Guaita *et al.*, 2020). Improving tourism competitiveness has a prominent role in the political agenda (Cvelbar *et al.*, 2015), and given its implications, this is true now more than ever. Thus, countries that find themselves in the worst situation should plan to improve their tourism management to ensure a quick recovery from the current crisis, and if possible, even strengthen their position.

Latin America has been getting increasing attention from scholars worldwide in the last few years (Alonso-Dos Santos *et al.*, 2019). This paper analyzes tourism competitiveness in Latin America. As a continent, America received a total of 193,297,300 international tourist arrivals in 2019 (WEF, 2020). These arrivals produce 304,902 million US\$ in international tourism inbound receipts (WEF, 2020). Although competitiveness has improved since 2017, with South America leading this trend (WEF, 2020), the differences between countries remain vast (Salinas *et al.*, 2020). Therefore, a country-level analysis capable of highlighting vulnerabilities is required to help tourism planners. Studies of tourism competitiveness and efficiency in Latin America are scarce (Gómez-Vega and Herrero-Prieto, 2018). Many such studies have focused on describing the data provided by the Travel & Tourism Competitiveness Index (TTCI) produced by the World Economic Forum (WEF; Vásquez and Llorach, 2021; Vásquez *et al.*, 2021; Vásquez and Martínez, 2020). Other studies have simply examined the competitiveness of specific Latin American countries individually, focusing on their capacity to capture international tourism flows (Ketelhöhn *et al.*, 2015) or their efficiency (Figuroa *et al.*, 2017). Studies have also examined the role of government in tourism competitiveness (Kubickova and Li, 2017; Kubickova, 2019) and the effects of plans to boost tourism

competitiveness in the region (Ketelhöhn *et al.*, 2015). In short, the academic literature has a gap in terms of studies of tourism competitiveness in Latin America. For instance, no study has offered analytical perspectives that complement those of the WEF and that propose ways of improving competitiveness based on advanced econometric analysis. This study contributes by offering just such an approach. Specifically, this study addresses two research questions (RQs). RQ1: Which Latin American countries are most competitive in tourism? RQ2: What strategies should the countries in this region adopt to improve their tourism competitiveness? This type of analysis is highly useful for shaping public policy on tourism to maximize the potential positive impact associated with this activity.

As discussed below, many methods and approaches have been used to analyze tourism competitiveness (Guaita *et al.*, 2020). One such method is the creation of synthetic indicators of competitiveness. Although these methods are undoubtedly useful, they entail problems in the choice of variables, the assignment of weights to each variable, the choice of information aggregation system, and so on (Salinas *et al.*, 2020). This paper proposes a synthetic indicator based on the P₂ Distance methodology proposed by Pena (1977). This methodology outperforms other alternatives by offering a system that enables the objective assignment of weights to variables, avoids duplicating information, and overcomes the problems derived from working with variables expressed in different units (Rodríguez *et al.*, 2018). It also highlights the variables with the greatest discriminatory power, namely those that perform best at explaining the differences between countries (Zermeño *et al.*, 2020). This approach makes it possible to offer public policy recommendations that are tailored to each country. The data used for this indicator are the same as those used for the TTCI. However, as explained, the data are processed differently.

2. Key factors of tourism management to strengthen competitiveness

In the context of globalization, competitiveness is a key element in the economic development of nations (Domareski *et al.*, 2019; Sigalat-Signes *et al.*, 2020). A high level of tourism competitiveness is necessary to strengthen a tourism destination. That is, more competitive tourist destinations are more successful (Kubickova and Li, 2017). Despite the importance of competitiveness, defining this concept is a complex task. Several authors have highlighted the controversy surrounding its definition (Mazanec *et al.*, 2007). This controversy is a consequence of its multidimensional nature and the large number of conditioning factors (Gooroochurn and Sugiyarto, 2005; Croes and Kubickova, 2013). Several definitions have been proposed, focusing on different aspects related to the development of tourist destinations. Crouch and Ritchie (1999) linked competitiveness to the ability of tourism to increase the prosperity of the local inhabitants. Dupeyras and MacCallum (2013) linked competitiveness to the optimization of tourism resources so as to develop a destination in such a way as to be compatible with the well-being of local residents. The perception of the locals is key (Parra-Camacho *et al.*, 2019; Parra-Camacho *et al.*, 2018). Buhalis (2000) indicated that tourism competitiveness

involves the capacity to generate long-term benefits (López-Chávez *et al.*, 2021). Hassan (2000) added its ability to maintain a favorable market position. The importance of environmental sustainability (Tiago *et al.*, 2021; de Castro *et al.*, 2019; de Castro *et al.*, 2020) and social sustainability has also been highlighted. These ideas underscore the need for support from citizens. Therefore, it is crucial to monitor how citizens perceive tourism development (Martin *et al.*, 2018; Martin, 2019; Morales *et al.*, 2020; Martín and Guaita, 2020).

Tourism competitiveness can be analyzed from many perspectives, and a wide range of factors are relevant to this analysis (Salinas *et al.*, 2020). The analysis of competitiveness involves both objective variables (number of visitors, infrastructure endowment, etc.) and subjective variables (richness of cultural heritage, quality of the tourist experience, etc.; Dwyer and Kim, 2003). The following dimensions can be highlighted as the most important: economic implications, attractiveness and satisfaction with the destination, sustainability, and the well-being of the local population (Abreu-Novais *et al.*, 2018). A commonly used model is that of Crouch and Ritchie, who identified five components of competitiveness: destination policy, planning, and development; basic resources and attractions; supporting factors and resources; qualifying and amplifying determinants; and destination management (Crouch and Ritchie, 1999, 2005; Ritchie and Crouch, 2000, 2003, 2010). The academic literature discusses numerous factors that affect tourism competitiveness, including the following: personal perceptions; socioeconomic relations with outbound markets; political stability; tourism resources and attractions; tourism demand awareness; religious or cultural factors; quality of medical care; cultural and historical heritage; government support; language; destination capacity; geography, proximity to outbound markets; private competitiveness; hospitality of local residents; cost-benefit ratio; climate; extreme weather phenomena; human-made resources; service excellence; proximity to other destinations; tourism destination accessibility; global strategic and marketing management; creation of quality experiences; level of security and safety; transport and accommodation infrastructure; sustainable development policies; the efficient participation and involvement of all public and private agents; international image; services for tourists; existence of a dense, diverse, and well-connected communication network with other countries; research and data treatment; the willingness of the political authorities to implement a tourism-development strategy; information management; acceptance by tourism development stakeholders; investment-seeking; availability and quality of human resources; service quality; and technological development (Dwyer and Kim, 2003; Crouch and Ritchie, 2005; Ritchie and Crouch, 2003, 2010; Heath, 2003; Moliner *et al.*, 2015; González-Pérez *et al.*, 2020). This extensive list illustrates the complexity associated with the analysis of tourism competitiveness, compounded by the lack of consensus on which factors are the most important (Crouch, 2011).

Echoing the lack of consensus on the definition of tourism competitiveness, another source of debate is how it should be measured (Guaita *et al.*, 2020). The main problems derive from the selection of variables, the assignment of weights to these variables, the

availability of data, the selection of the most suitable method when working with a large number of factors, and the difficulty associated with the aggregation of qualitative and quantitative variables (Kozak and Rimmington, 1999). One of the most widespread lines of research involves synthetic indicators that seek to reflect a complex reality (Croes and Kubickova, 2013). Researchers and public institutions have offered numerous proposals. One of the most widely accepted is that of the World Economic Forum (WEF), which periodically issues the Travel & Tourism Competitiveness Index (TTCI). This synthetic indicator summarizes the information provided by 90 variables across 14 pillars. The data for these variables come from a WEF survey and are supplemented by variables from secondary sources. Although this indicator is widely accepted, it has attracted certain criticisms. For instance, it assigns the same importance (weight) to all variables. It also prevents detection of the most important factors for improving a destination's competitiveness (Salinas *et al.*, 2020), which is crucial in public policy (Abreu-Novais *et al.*, 2018). Another drawback is that it fails to prevent the duplication of information or to offer a conclusive solution for combining data expressed in different units (Martín *et al.*, 2017). The academic literature provides other proposals of indicators. For example, Gooroochurn and Sugiyarto (2005) proposed an indicator based on 23 variables across eight dimensions (infrastructure development, price competitiveness, environment, technology advancement, social development, human tourism, human resources, and openness). The method in this case entailed assigning a weight to each variable using confirmatory factor analysis. Other noteworthy proposals are those of Croes and Kubickova (2013), Mazanec and Ring (2011), Assaker *et al.* (2014), Blanke *et al.* (2013), Huang and Peng (2012), Garau-Taberner (2007), Cracolici *et al.* (2008), and Zhang *et al.* (2011).

3. Method

A two-stage procedure was followed to meet the research aims and answer the two research questions. In the first phase, a synthetic indicator of tourism competitiveness was created. This indicator was used to rank Latin American countries in terms of competitiveness. In addition, the factors with the greatest power to explain differences between countries were also identified. The P₂ distance methodology proposed by Pena (1977) was used for this purpose. In the second phase, country-level analysis was performed. The overall ranking of each country was thus analyzed, in addition to its ranking in each of the key areas capable of explaining differences in competitiveness.

3.1. Creating the synthetic indicator

A synthetic indicator was built using the variables employed by the Travel & Tourism Competitiveness Index (TTCI). This approach is justified by the fact that the variables used by this indicator cover a much larger set of factors than any other proposal. In total, 90 variables were used (WEF, 2020). The main criticisms of the TTCI concern the

methodology (Cástro-González *et al.*, 2014), not the variables. For this study, the data were collected from the WEF database for the year 2019 (WEF, 2020). Initially, partial synthetic indicators were created following the DP₂ methodology and using each of the 14 pillars in the TTCI. Next, a global synthetic indicator of competitiveness was constructed by integrating the information from these 14 pillars. The coefficients of individual relative information for the variables were also estimated. This process was crucial to determine which variables are most effective at explaining the differences between countries, as outlined later.

This study considered 80 countries. These 80 countries are the highest ranked in the world in terms of tourism flows. They are therefore also the countries where tourism is most developed. The continent of America was analyzed as a whole to compare countries with different levels of economic and tourism development. The American countries included in the full list of 80 countries are the United States, Canada, Costa Rica, Chile, Panama, Mexico, Uruguay, Dominican Republic, Jamaica, Brazil, Peru, Argentina, Nicaragua, Honduras, and El Salvador.

The P₂ Distance system was developed by Pena (1977) based on the concept of the Ivanovic (1974) Distance. This system was used to aggregate the data. It uses the coefficient of determination instead of the correlation coefficient to assign weights to the variables (Rodríguez *et al.*, 2018; Rodríguez *et al.*, 2019). The coefficient of determination acts as a correcting factor, thereby avoiding the duplication of information contributed by the variables. This method has been used in academic research to measure regional disparities in terms of development or welfare (Zarzosa and Somarriba, 2013). In recent years, it has also been used in analyses of the tourism sector (Martín *et al.*, 2020; Guaita *et al.*, 2019; Guaita *et al.*, 2020).

When creating a synthetic indicator, the problems relate not only to the duplication of information but also to the use of variables expressed in different units and the objective allocation of weights to these variables (Somarriba and Pena, 2009; Guaita *et al.*, 2021). The method for calculating the DP₂ indicator overcomes these problems (Pena, 2009, Zarzosa 2005; Somarriba, 2008). It also meets the properties required of a synthetic indicator (see Martín *et al.*, 2019), making it more suitable than other similar alternatives such as data envelopment analysis (DEA) and principal component analysis (PCA; Zermeño *et al.*, 2020; Rodríguez *et al.*, 2016). The synthetic competitiveness indicator is constructed in such a way that an improvement in the simple variables leads to an improvement in the position of the indicator. If any variable is reverse scored, it is multiplied by -1 beforehand.

With this method, the value of the DP₂ indicator for the j-th country is calculated as follows:

$$DP_2 = \sum_{i=1}^n \frac{d_{ij}}{\sigma_i} (1 - R_{i,i-1,\dots,1}^2) \quad i = 1, \dots, n; j = 1, 2, \dots, m$$

Here, X_{ij} represents the value of variable i for country j , $d_{ij} = |x_{ij} - x_{i*}|$ is the difference between the value of variable i for country j and the minimum value of variable i over all countries, n is the number of variables used in the analysis, σ_i is the standard deviation associated with variable i , and $R_{i,i-1,i-2,\dots,1}^2$ is the coefficient of determination in the regression of variable x_i with $x_{i-1}, x_{i-2}, \dots, x_1$ already included (with $R_1^2 = 0$).

With this method, the coefficient of determination ($R_{i,i-1,i-2,\dots,1}^2$) is used to measure the proportion of the total variance of variable x_i explained by the linear regression with respect to variables $x_{i-1}, x_{i-2}, \dots, x_1$ previously included in the synthetic indicator. Accordingly, Pena (1977) defined the correction factor as $(1 - R_{i,i-1,i-2,\dots,1}^2)$ to eliminate duplicated information associated with the simple variables. This factor refers to the new information that enters the process once previous information has already made its contribution. To calculate the DP₂ indicator, an iterative process is followed. The order with which the variables enter the indicator construction process corresponds to the amount of information they contribute. Pena (1977) proposed a procedure whereby the variables are sorted in descending order according to their absolute coefficient of correlation with the synthetic indicator. The initial assumption is that all variables are correlated with each other. Hence, the correction factors are assumed to take a value of 1 in all cases, given that ($R_{i,i-1,i-2,\dots,1}^2$) is equal to zero. This process provides the Frechet index, which represents the maximum value that the synthetic indicator can take for each country. Next, the variables are sorted in descending order according to their correlation with the Frechet Index. Finally, once the DP₂ indicator has been calculated, the variables are sorted again according to their degree of correlation with the indicator. This process is repeated as many times as necessary until the values of the synthetic indicator converge (Zarzosa, 2005).

The objective of this paper is to identify the variables within the competitiveness indicator that best explain differences in competitiveness between Latin American countries. The method followed to achieve this objective is now described. The Ivanovic discrimination coefficient (IDC; Ivanovic, 1974) was used to measure the discrimination power of the variables. The IDC reflects the inequality in the distribution of the values of each variable for the selected countries. It is expressed as follows:

$$IDC = \frac{2}{m(m-1)} \sum_{j,l>j}^{k_i} m_{ji}m_{li} \left| \frac{x_{ji} - x_{li}}{\bar{X}_i} \right|$$

Here, m is the number of countries, x_{ji} is the value of each variable X_i for country j , x_{li} is the minimum value for variable X_i in country l , m_{ji} is the number of countries where the value of X_i is equal to x_{ji} , \bar{X}_i is the mean of variable X_i , and k_i is the number of different values that can be taken by X_i across all countries.

This coefficient takes values between 0 and 2. A value of 0 indicates that all variables x_i are equal to 0, thus reflecting minimum discriminatory power. In complete contrast, a discrimination coefficient of 2 means that the value of x_i for one country is different from 0 but equal to 0 all other countries. In such cases, the variable has full discrimination power. Combining the DC and the Pena correction factor gives the Ivanovic-Pena global information coefficient (GIC). This new coefficient reveals the amount of information that each variable contributes to the construction of the DP₂ synthetic indicator (Martín *et al.*, 2017). This GIC indicator is expressed as follows:

$$GIC = \sum_{i=1}^n DC(1 - R_{i,i-1,i-2,\dots,1}^2)$$

Here, n is the total number of variables, DC is the Ivanovic discrimination coefficient, and $(1 - R_{i,i-1,i-2,\dots,1}^2)$ is the Pena correction factor.

Finally, the individual relative information coefficient, created by Zarzosa (1996), indicates the relative importance of each variable within the synthetic indicator. This importance depends on how much useful information it provides and its discrimination power. This indicator takes values ranging from 0 to 1 and reveals differences in the competitiveness of different countries.

$$\alpha_i = \frac{DC_i(1 - R_{i,i-1,i-2,\dots,1}^2)}{CIP}$$

The process described in this section was used to create the synthetic indicator of tourism competitiveness. It was applied to the 80 countries with the greatest tourism activity in the world. It was then used to perform a true comparison of the situation of the countries of Latin America. This indicator is based on 90 variables grouped into 14 pillars. This method also makes it possible to identify the variables that best explain the differences between the tourism competitiveness of Latin American countries by estimating of the individual relative information coefficient.

3.2. Competitiveness analysis by country and determining factors

The synthetic indicator presented in this paper provides a ranking of the tourism competitiveness of Latin American countries, plus the United States and Canada. This ranking enables comparison of these countries. Insight into the variables that explain country-level differences in terms of competitiveness is also provided. The next step is to perform individual analysis by country. For each country, information is provided on its position in the regional ranking in each dimension identified as central to explaining competitiveness. This analysis provides valuable information on the country's position in the competitiveness ranking, both globally and regionally, focusing on the key variables. This step relies on a comparison of the initial WEF data for each variable and country. Focusing on each of the key variables, 17 simple regional rankings were created. To

perform this step, the key variables had to be identified. Thus, each country can observe its strengths as well as the areas where it must improve its tourism management to climb the competitiveness ranking.

4. Results

Table 1 shows the ranking of countries by tourism competitiveness. The ranking consists of the 80 countries that receive the largest flows of international tourism. The table includes the 13 Latin American countries that are part of this group, plus the United States and Canada, which were included as a benchmark. This indicator offers substantial improvements with respect to the WEF indicator because it uses objective weights for the variables and avoids the duplication of information. The top two positions of the ranking of countries by tourism competitiveness are occupied by the most advanced countries, namely the United States and Canada. This initial comparison was performed using the 80 countries with the highest tourism flows, although the focus is on the countries of Latin America. Within Latin America, the most competitive country is Costa Rica, just behind Canada. It is followed (in order) by Chile, Panama, Mexico, and Uruguay. According to the ranking, the least competitive countries are El Salvador, Honduras, and Nicaragua. It is important to clarify that these three countries are not the least competitive destinations in Latin America, but simply the least competitive within the group of countries with the greatest tourism flows. They can therefore still be considered leaders within the region. Simply appearing in this list is a positive achievement.

Table 1. Ranking of tourism competitiveness in the countries with the highest tourism flows: Latin America, United States, and Canada

Position	Country	Synthetic indicator
1	United States	28.7
16	Canada	25.4
32	Costa Rica	22.6
36	Chile	21.9
43	Panama	20.7
49	Mexico	19.9
50	Uruguay	19.8
51	Dominican Republic	19.2
53	Jamaica	18.9
55	Brazil	18.7
60	Peru	18.0
61	Argentina	18.0
65	Nicaragua	17.4
71	Honduras	16.1
78	El Salvador	13.5

Due to restrictions in terms of space and scope, this paper does not include details of the previous estimates or the intermediate steps needed to determine which variables provide the most information in the estimation of the competitiveness indicator. As described in the method section, these steps correspond to estimating the Ivanovic discrimination coefficient (IDC) and the Ivanovic-Pena global information coefficient. These coefficients were then used to estimate the individual relative information coefficient (α), as described earlier. First, the pillars (groups of variables) that best explain the differences in tourism competitiveness between the countries of interest were identified. These seven pillars account for 75% of the information captured by the indicator. They are therefore the strongest pillars in describing differences in competitiveness. The three most relevant pillars are those related to cultural and natural resources, as well as the implementation of information and communication technologies (ICTs). The following table highlights the variables that contribute the greatest relative information to each pillar. As shown, the most important variables in determining differences in competitiveness between countries are the presence and protection of cultural and natural resources; the penetration of ICTs; the country's international openness in terms of tourism mobility; and the quality of the tourism infrastructure in terms of hotels, domestic transport, and international air travel.

Table 2. Variables that contribute most to the key dimensions of competitiveness

Dimensions and variables	α
Dimension: Cultural resources	0.2
Intangible heritage and culture	0.4
Number of cultural World Heritage sites	0.2
Dimension: Natural resources	0.11
Number of natural World Heritage sites	0.3
Number of sites declared as protected areas	0.2
Dimension: Implementation of ICTs	0.11
Number of citizens who use the Internet	0.3
Number of active mobile phone lines with broadband Internet access	0.2
Number of active landlines with broadband Internet access	0.2
Dimension: International openness	0.9
Number of active international trade agreements	0.5
Active bilateral air service agreements	0.3
Visa requirements	0.2
Dimension: Tourism service infrastructure	0.08
Presence of leading car hire companies	0.3
Hotel rooms/spaces	0.2
Dimension: Port and land infrastructure	0.07
Density of the rail network	0.4
Efficiency of land travel	0.2
Dimension: Air transport service infrastructure	0.07
Number of available seats on international flights	0.3
Number of outbound flights	0.3

Dimensions and variables	α
Number of available seats on national flights	0.1

The last part of the results section focuses on the individual country analysis. The aim is to explain the position of each country in the competitiveness ranking and describe its situation in terms of the key variables. For each key variable, a ranking of the 15 countries of interest is provided. A higher ranking (lower number in the following table) corresponds to a more prominent position as a leader within the region. The most competitive country, Costa Rica, stands out in terms of its accommodation infrastructure, rail network, and presence of leading car rental companies. However, it occupies a low ranking in terms of sites declared as protected areas, cultural sites, and protected natural areas. It also has certain weaknesses in terms of air travel. The second most competitive country is Chile. It has a high ranking in the number of active trade agreements, sites declared as protected areas, and the number of citizens who use the Internet. Its main weaknesses relate to the number of sites declared as protected areas, the number of bilateral agreements in air services, and the presence of leading car rental companies. At the other end of the table is El Salvador. Its main strengths are its bilateral air agreements and visa requirements. Its major weaknesses include the scarce presence of leading car rental companies and the low degree of efficiency in land transport.

Table 3. Country-level analysis of the rankings in key dimensions of competitiveness

	Argentina	Brazil	Canada	Chile	Costa Rica	Dominican Republic	El Salvador	Honduras	Jamaica	Mexico	Nicaragua	Panama	Peru	United States	Uruguay
Intangible heritage and culture	5	3	13	6	11	4	14	12	7	2	8	9	1	15	10
Number of cultural World Heritage sites	6	2	5	7	11	12	13	14	15	1	8	9	4	3	10
Number of natural World Heritage sites	5	3	2	11	6	12	13	9	10	4	14	7	8	1	15
Number of sites declared as protected areas	9	1	10	2	12	4	14	8	15	5	6	11	7	3	13
Number of citizens who use the Internet	3	7	1	2	5	8	14	13	11	9	15	10	12	4	6
Number of active mobile phone lines with broadband Internet access	6	4	7	5	3	12	11	15	13	9	14	10	8	1	2
Number of active landlines with broadband Internet access	4	7	1	5	6	11	13	15	10	8	14	9	12	2	3
Number of active international trade agreements	13	11	7	1	6	14	9	8	15	4	10	3	2	5	12
Number of active bilateral air service agreements	12	13	8	10	6	7	1	3	4	15	2	9	11	5	14
Visa requirements	8	12	14	4	9	7	2	10	1	13	3	6	5	15	11
Presence of leading car hire companies	1	13	9	10	2	3	15	14	4	5	11	12	6	7	8
Hotel rooms/spaces	9	10	15	7	2	6	14	12	3	8	13	5	4	1	11
Density of rail network	9	10	15	7	2	6	14	12	3	8	13	5	4	1	11
Efficiency of land travel	8	9	2	4	11	6	15	14	7	5	13	3	10	1	12
Number of available seats on international flights	5	4	2	7	11	6	12	14	10	3	15	9	8	1	13
Number of outbound flights	6	10	1	5	4	15	8	13	14	7	12	2	9	3	11
Number of available seats on national flights	5	2	3	6	11	13	14	10	12	4	9	8	7	1	15

5. Discussion

This section reflects on the research questions addressed by this study. RQ1 asked which Latin American countries are most competitive in tourism. According to the DP₂ competitiveness indicator, Costa Rica, Chile, Panama, and Mexico are the most

competitive countries. At the other end of the competitiveness scale are Nicaragua, Honduras, and El Salvador. It is again worth clarifying that these three countries are the least competitive only when compared with the other countries included in the study. Other Latin American countries may be less competitive but may also have a lower volume of tourism activity and so were not included in this study. The lack of analyses of tourism competitiveness in Latin America makes comparison with previous results difficult. The latest edition of the WEF TPCI (2019) was used to compare the results. According to the TPCI, the most competitive country worldwide is Spain. However, in our study, it is the United States, which is fifth in the WEF ranking (WEF 2019). Similarly, Canada is ninth in the WEF ranking but 16th in the proposed ranking. The highest-ranked Latin American country in the TPCI ranking is Mexico (19th), followed by Brazil (32nd) and Costa Rica (41st). In the proposed ranking, the highest-ranked country is Costa Rica (32nd). Costa Rica therefore has a high ranking according to both methods. Gómez-Vega and Herrero-Prieto (2019) highlighted the competitiveness of Mexico and the Caribbean. In the case of the proposed indicator, Mexico is the fourth most competitive Latin American tourist destination.

Regarding RQ2 (What strategies should the countries in this region adopt to improve their tourism competitiveness?), the results indicate that the least competitive countries should focus on key aspects through private management and public policy. These dimensions relate to the protection, use, and dissemination of their natural and cultural resources, the implementation of ICTs, international openness, tourism transport infrastructure, and the development of air travel. The final contribution of this study is to offer analysis of the specific competitiveness situation of each of the Latin American countries of interest. The leading country should improve aspects related to sites declared as protected areas, cultural sites, and protected natural areas, while reducing weaknesses in air travel. The country with the lowest ranking, El Salvador, should focus on attracting leading car rental companies and improving efficiency in land transport.

6. Conclusions

The contribution of this study is to propose an alternative method for measuring and monitoring tourism competitiveness in Latin American countries. The proposed indicator enables multidimensional analysis of tourism competitiveness using a system that overcomes the problems raised by other synthetic indicators. For example, it avoids the duplication of information and assigns objective weights to variables (i.e., their importance). Few analyses of tourism competitiveness have focused on Latin America, even though it is the third biggest region in the world in terms of tourism activity (WEF, 2020). Given the importance of tourism in these countries, governments and investors have major incentives to enhance tourism competitiveness (Domareski and Chim 2019; Domareski *et al.*, 2019).

This study not only makes it possible to generate a ranking of competitiveness by country but also highlights the key variables that explain differences in competitiveness.

The right approach by private business management and public policy is fundamental to achieve solid results. Since the 1990s, economic strategy in Latin America has focused on the attraction of foreign direct investment, trade liberalization, deregulation, the reduction of public spending, and privatization (Ketelhöhn *et al.*, 2015). At this time, peace, as well as tax incentives, drove tourism, creating economic growth for the region. However, in a highly competitive and globalized context, these strategies are no longer enough. Therefore, the main recommendation derived from this study is for both public authorities and large companies to engage in country-level planning, focusing on the weakest areas. Hence, individual country-level analysis is crucial. Competitiveness requires coordination between governments and the private sector, as well as international coordination between countries in the same region (Ketelhöhn *et al.*, 2015). The Central American Competitiveness Initiative was designed based on this idea. This program, designed to promote competitiveness, has been adopted by seven countries in the region and is based on the ideas of Porter (1990). It could provide an excellent foundation for working together toward a quantitative and qualitative leap in tourism competitiveness in the region over the coming decade. An obvious continuation of this research would be to perform follow-up analysis of the tourism competitiveness plans implemented by each country. The achievements of countries that have focused on the key variables outlined above could thus be analyzed.

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