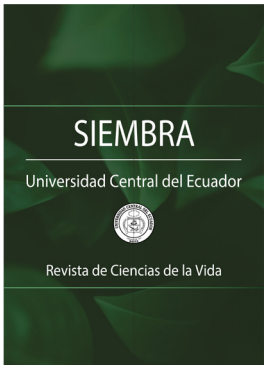
Proposal of a methodology for the design of rural tourism routes and circuits in the province of Azuay based on cluster analysis



Propuesta de metodología para el diseño de rutas y circuitos turísticos rurales en la provincia del Azuay basado en el análisis de conglomerados

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Abstract

In the first half of 2024, Ecuador received a total of 589,082 tourists, with an annual growth rate of 12.77%, and an increase in jobs of 5.12%, representing a participation of the tourism sector in the GDP of 2.06%. However, a review of the state of the art shows several methodologies and tools contribute to the development of rural tourism sites and destinations, which are applied according to the characteristics of each territory analyzed. Therefore, our objective was to determine, through the cluster method, the classification, decision-making, and the different tourist routes and circuits that will strengthen the development of rural areas in the province of Azuay. The proposed methodology allows for the identification of four clusters to be taken into account when planning a tourist circuit or route. The most important cluster is nature with 46.6%, followed by gastronomy and art and culture with 40%, and finally adventure with 13.3%.

Keywords: tourism, conglomerates, tourist route, rural.

Resumen

Durante el primer semestre de 2024, el Ecuador recibió un total de 589.082 turistas, con una tasa de crecimiento anual del 12,77%, y un incremento del 5,12% en los puestos de trabajo, representando una participación del sector turístico en el PIB del 2,06%. Sin embargo, si se hace una revisión del estado del arte, se encuentra que existen múltiples metodologías y herramientas que aportan al desarrollo de sitios y destinos turísticos rurales, las cuales se aplican en función de las características de cada territorio analizado. Por lo que se plantea como objetivo determinar, mediante el método de conglomerados, la clasificación, toma de decisiones y las diferentes rutas y circuitos turísticos, que permitan fortalecer el desarrollo de las áreas rurales de la provincia del Azuay. La metodología propuesta permitió identificar cuatro conglomerados, a ser considerados al momento de plantear un circuito o ruta turística, siendo el conglomerado de mayor importancia el de naturaleza con un 46,6%, seguido de los conglomerados de gastronomía y de arte y cultura con un 40%, y finalmente con un 13,4% el conglomerado aventura.

Palabras clave: turismo, conglomerados, ruta turística, rural.

1. Introduction

Tourism worldwide represents a dynamic economic activity (Altimira Vega & Muñoz Vivas, 2007; Gambarota & Lorda, 2017; Lambogglia Ortiz, 2014). The case of Ecuador is no different, according to data from the Ministry of Tourism, in 2020 the tourism sector ranked sixth, with US$ 705 million dollars, within non-oil income sources, occupying the first place in the balance of services (Ministerio de Turismo [MINTUR], 2020).

According to the infographic of key indicators issued by the Ministry of Tourism of Ecuador [MINTUR], in 2021 the contribution of the national Tourism GDP amounted to 1.3% (Revista Gestión, 2023). Regarding the position of tourism in non-mining exports, in 2023 tourism reached an increase of 42.2% compared to 2022. This allowed it to rank third in non-oil income sources after bananas and plantains, and shrimp, which ranked second and first, respectively (MINTUR, 2022b).

According to World Tourism Organization [UNWTO] projections, after the pandemic the recovery of the tourism industry could be achieved as of 2024 (García Armuelles, 2023; Llugsha, 2021); therefore, starting 2022, the MINTUR has proposed a progressive technical-promotion investment strategy in in accordance with international indicators, highlighting the following: increased income from inbound tourism, increased foreign arrivals, and employment growth in tourism activities (MINTUR, 2022a).

Currently, Ecuador does not have updated tourism information, this is due to several factors such as lack of technical equipment, scarce allocations of economic resources to carry out updates, difficulty in applying the different tools designed locally, etc. (Álvarez Freire, 2015). For this reason, according to data from the Ministry of Tourism, the last update available corresponds to 2004. Despite in 2017 the tool was updated in order to renew the inventory of tourist attractions; however, this has not led to optimal results due to the aforementioned problems (Garzón y del Val Martín, 2017)

MINTUR (2017) has published on its website the ‘tourist attraction inventory matrix. This applies the methodology developed by the Organization of American States [OAS] for the inventory and registration of tourist attractions, showing a total of 3,550 tourist attractions at the national level with their respective classification and hierarchy (Espinosa Lascano, 2014; Vasconez-Alvarado & Vasconez-Macías, 2022). Of this total, 242 inventoried attractions correspond to the province of Azuay, placing it in fourth place according to the largest number of attractions identified and inventoried by the MINTUR at the national level. For its part, the Consortium of Autonomous Provincial Governments of Ecuador [CONGOPE], during 2022 presented a tourism toolbox for the territorial management of provincial GADs (Andrade et al., 2013).

On the other hand, most of the Autonomous Decentralized Autonomous Cantonal and Parochial Governments of Azuay do not currently have a tourism planning tool that would constitute a dynamic integrated information instrument to support tourism management in their territories (Gobierno Provincial Del Azuay, 2021). In other words, they do not have a valued registry of all the tourist and cultural attractions and resources of their localities (Sánchez Andaur & Morales Yamal, 2021). For this reason, the present work intends to design a methodology which allows to identify the indicators of the rural tourism routes or circuits existing within the territory, and then to group them based on the clustering method.

Finally, what is intended with the application of the proposed methodology is to promote the rural tourism potential of the province by dividing it into mathematically conformed clusters, allowing an adequate economic growth that promotes local development (Avendaño-Leadem et al., 2022). According to (Bravo Ochoa, 2021) a tourist’s intention to visit is the result of all the tourism elements and qualities that make up the potential of a territory; in other words, Arichávala Ordóñez and Pesántez Solano (2021) express that the curiosity to visit certain places is motivated by natural or cultural characteristics; while Cruz et al. (2022) note that tourism activity translates into development, not only economic, but also in the improvement of infrastructure, the generation of new sources of employment, and the attraction of foreign capital for development, particularly in rural areas.

2. Materials and Methods

In order to identify groups of rural tourism routes or circuits for the province of Azuay, as well as to validate a model transferible to other sectors. This research was divided into three fundamental pillars, the first one being related to the state of the art. For this reason, the analytical-synthetic method was used, with the aim of analyzing the different tools already proposed by multiple entities of Ecuador´s tourism sector, such as MIN-

TUR, CONGOPE, among others; and, then, complemented with the logical method, in order to define parameters to be considered in all the tourist routes or circuits identified throughout the province of Azuay.

Throughout the second phase, the same method was also applied, as the information collected from the different rural sectors of the cantons of the province was synthesized and processed to obtain the most relevant information concerning the object of investigation of this study. It is worth mentioning that a sampling formula was not applied for the cantons, as none of them can be excluded. Rather, an official letter was sent to the mayors of cantons and presidents of parish councils, requesting them to act as experts, filling out a digital form to measure the internal consistency of each element taken from the manual of tourist attractions provided by the Ministry of Tourism as to rural tourist routes and circuits, through the Cronbach's alpha method. The form had closed questions, including the typology of the route, the organization where it is located (community, municipal, parish, organization), as well as spaces for the description of the route, activities, resources and tourist attractions, among others. This allowed to identify groups of rural tourism routes or circuits for the province of Azuay, as well as to validate a model applicable to other sectors.

Finally, the analytical and hypothetical method -which includes proposals for the different hierarchical levels-, was used supported by the clustering method.

3. Results

Although there are several methodological tools, granted by the entities in charge of tourism activities such as: MINTUR, CONGOPE or the Association of Municipalities of Ecuador; their proposals are very general, and, consequently, present difficulties at the moment of their application locally, thereby highlighting how each space attaches importance to different qualities.

The application of cluster analysis can be seen in other works to segment in a more optimal way the data studied, as is the case of Pérez-Castañeira et al. (2021) in their "Study of models that address the management of tourist destinations", as well as in Garcia-Reinoso et al. (2020), in their study "Segmentation of the Colombian tourist demand visiting the Planning Zone 1 plus the province of Pichincha in Ecuador".

For the present study, both the *Manual de Generación de Rutas e Itinerarios Turísticos* (MINTUR, 2019) and the *Manual de Atractivos Turísticos* (MINTUR, 2018), proposed by Ecuador´s governing body of tourism, were considered. Additionally, academic studies proposing alternative methodologies were used to diagnose local tourism activity, some examples include: López Zapata et. al. (2017), Gómez Hinojosa et. al. (2014), Covarrubias Ramírez et. al. (2019), Calle Lituma (2023).

This research begins with the analysis of the criteria expressed within the Manual of tourist attractions, methodologies made available by by the MINTUR, as, resorting to basic concepts, a tourist route or circuit is composed of attractions or resources that generate the interest of visitors. The manual presents an exhaustive analysis of an attraction; however, in the case of a tourist route or circuit, which is a broader field of action that includes more than one attraction, not all the criteria described by the tool could be applied. As a consequence, the deconstruction of the manual and selection of the indicators listed in Table 1, followed. These indicators were chosen because they are indispensable and essential for the operation of a rural tourism route or circuit. Conversely, other criteria were excluded because they are difficult to apply in a general way to other routes. A total of 15 indicators were obtained based on the state of the art and the expertise of the technicians of the Provincial Government of Azuay (Table 1).

With the indicators defined, we proceeded to quantify the number of affirmative observations for each one of them (Table 2), which is quantified based on the total number of records obtained (86). [1].

$$S^2 = \frac{\sum(X_i - \bar{X})^2}{n-1} \quad [1]$$

Where, S^2 is the variance, X_i is the data set term or observations, $\bar{X}$ is the sample mean, $\sum$ is the summation and n is the sample size.

Subsequently, Cronbach's Alpha was calculated with the objective of measuring the reliability of the proposed indicators, discriminating the criteria that are not equal to zero, or that in turn are less than 0.7 (equation [2]).

$$\propto = \frac{K}{K-1}\left[1 - \frac{\sum {S_i}^2}{{S_T}^2}\right] \quad [2]$$

Where, K is the number of items, S_i^2 is the sum of item variances, and S_T^2 is the variance of the sum of the items.

Table 1. List of Indicators.

N°.	Indicators
I1	Accessibility and connectivity
I2	Tourist Plant / Services
I3	State of Conservation and integration of attractions / Environment
I4	Hygiene and tourist safety
I5	Policies and regulations
I6	Activities practiced (recreational options)
I7	Dissemination
I8	Visitor registration and affluence
I9	Human Resources
I10	Group to which it belongs (community, parish, municipal, association)
I11	premises (public - private - community spaces)
I12	tourist signage (good - bad - nonexistent)
I13	Tourist attractions that make up the route or circuit
I14	Activities that can be developed
I15	Tourist Facilities

Table 2. Data analysis to obtain Cronbach's Alpha.

N°	Indicators	N° obs	%	Divided by 100	variance	Cronbach's Alpha (≠0 or greater than 0.7 holds)
1	Accessibility and connectivity	67	77.91	0.779	1.459	0.963
2	Tourist Plant / Services	52	60.47	0.605	0.337	0.993
3	State of Conservation and integration of attractions / Environment	39	45.35	0.453	0.001	1.002
4	Hygiene and tourist safety	41	47.67	0.477	0.014	1.001
5	Policies and regulations	11	12.79	0.128	1.289	0.968
6	Activities practiced (recreational options)	39	45.35	0.453	0.001	1.002
7	Dissemination	19	22.09	0.221	0.641	0.985
8	Registration of visitors and affluence	16	18.60	0.186	0.858	0.979
9	Human Resource	23	26.74	0.267	0.401	0.991
10	Group to which it belongs (community, parish, municipal, association / collective)	86	100.00	1.000	4.013	0.896
11	Premises (public - private - community spaces)	5	5.81	0.058	1.923	0.951
12	Tourist signage (good - bad - nonexistent)	13	15.12	0.151	1.106	0.973
13	Tourist attractions that make up the route or circuit	39	45.35	0.453	0.001	1.002
14	Activities that can be developed	47	54.65	0.547	0.138	0.998
15	Tourist Facilities	75	87.21	0.872	2.380	0.939

Once the data obtained were analyzed, it was not necessary to discriminate any of the variables analyzed, since according to the criteria of the participants who registered their respective rural routes and circuits, all the variables listed are important and can be applied in their territories. Prior to the analysis, segmentation was carried out based on four tourism typologies (nature, art and culture, gastronomy, adventure), the corresponding items were grouped, Cronbach's Alpha was analyzed again in order to determine the dispersion of the variables, and the variables with the least dispersion, i.e. those closest to 0.7, were considered the most important, these being the nature and adventure typologies, grouping them as shown in the following table Table 3.

Table 3. Cronbach's Alpha variable according to initially proposed tourism typologies.

Cluster	Clustered Group	Clustered Cronbach's Alpha	Clustered variance	variance
Nature	1	I1, I6, I10, I11	0.953	1.849
Gastronomy	2	I4, I9, I14	0.997	0.184
Art and culture	3	I2, I3, I7, I13	0.995	0.245
Adventure	4	I5, I8, I12, I15	0.965	1.408

Once the 15 variables were grouped into four clusters, the centroid was determined, the distance of each object or variable to the centroid was determined and a new grouping was made based on the minimum distances, applying the K-means Cluster Analysis algorithm, until the results were convergent. This made it possible to associate the variables analyzed in each of the groups of the cluster (Figure 1).

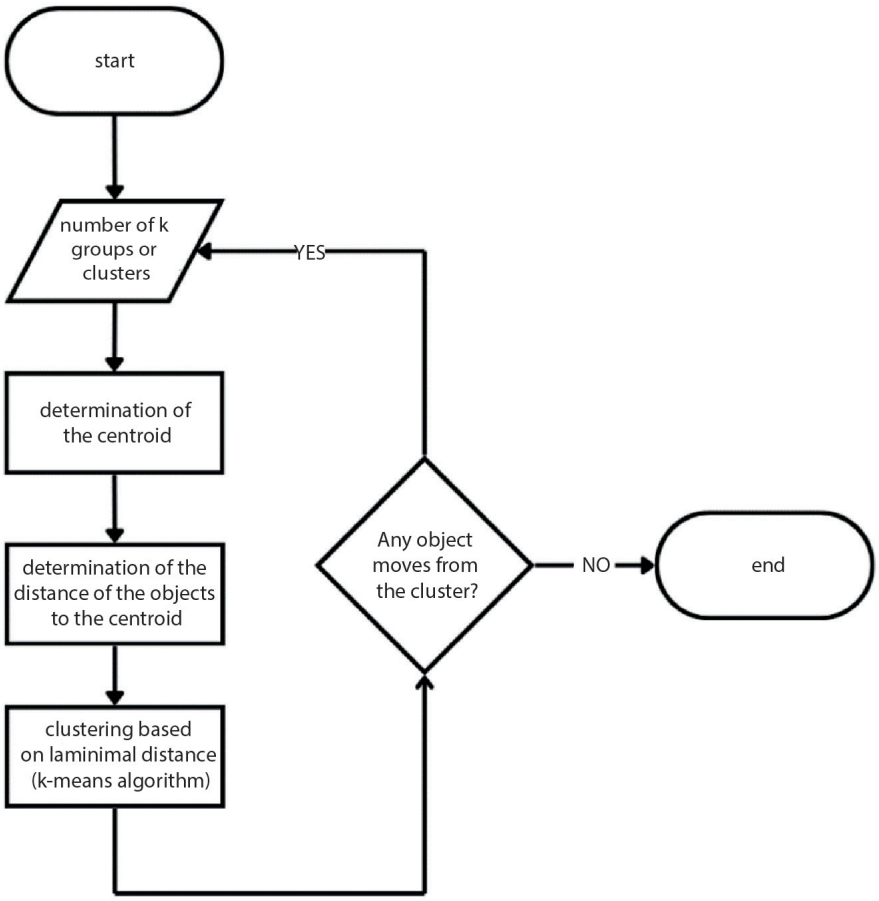

Figure 1. Flowchart for cluster calculation.

The results of the analyses of the above formulas are detailed in Table 4.

Table 4. Indicators and observations based on the proposed Cluster or Conglomerate.

X	Y	Proposed Cluster
1	67	1
2	52	3
3	39	3
4	41	2
5	11	4
6	39	1
7	19	3
8	16	4
9	23	2
10	86	1
11	5	1
12	13	4
13	39	3
14	47	2
15	75	4

The data consists of 15 data elements that can be viewed as two-dimensional points. Since there are four groups, we started by assigning the first element to group 1, the second to group 2, the third to group 3, etc., until we reached the convergence of the calculated clusters.

Based on the data in Table 4, we proceeded to calculate the distance (equation [3]) between X and Y, and by minimizing we found the centroids (equation [4]).

$$dist(x, y) = \sqrt{\sum_{i=1}^{n}(x_i - y_i)^2} \quad [3]$$

$$C_j = \frac{1}{m_j}\sum_{x \in C_j} x \quad [4]$$

Subsequently, the centroids of each group were set to be the mean of all the elements in that group (Table 5). The centroid for the first group is (7;49.25), where the X value was calculated using equation [5] and the Y value was calculated using equation [6]. The centroid for the other cases was calculated in the same way, only the cluster or group number changed.

$$AVERAGEIF(cluster\ data, group\ number, Y\ values) \quad [5]$$

$$AVERAGEIF(cluster\ data, group\ number, X\ values) \quad [6]$$

Table 5. Centroid calculation by clusters.

Centroide	1	2	3	4
X	7	9	6,25	10
Y	49,25	37	6,25	10

Next, the squared distance from each of the 15 data elements to each centroid was calculated, and the minimum point was found (Table 6).

Next, the convergence value SSE [Sum of Squared Errors] was calculated, obtaining SEE = 3,120.625, since the original cluster assignment (Table 7) is different from the new group assignment (Table 8), the algorithm has not yet converged and so was continued. Authors simply copied the last computed cluster assignment into the range and repeated the same steps.

Table 6. Distance calculation and k-means algorithm.

Dist-sq	1	2	3	4
351,0625	351.0625	964	3718.125	3330.000
32,5625	32.5625	274	2111.125	1828.000
40	121.0625	40	1083.125	890.000
41	77.0625	41	1212.625	997.000
24,125	1467.063	692	24.125	26.000
13	106.0625	13	1072.625	857.000
90	915.0625	328	163.125	90.000
40	1106.563	442	98.125	40.000
170	693.0625	196	288.125	170.000
1359,563	1359.563	2402	6374.125	5776.000
24,125	1974.063	1028	24.125	26.000
13	1339.063	585	78.625	13.000
141,0625	141.0625	1690	1118.125	850.000
54,0625	54.0625	2405	1720.625	1385.000
727,0625	727.0625	5850	4803.125	4250.000

Table 7. Comparison of proposed and calculated clusters.

Proposed Cluster	Calculated Cluster
1	1
3	1
3	1
2	2
4	3
1	1
3	2
4	3
2	4
1	1
1	3
4	4
3	1
2	1
4	1

Table 8. Comparison of Conglomerate or Cluster calculated 1 and calculated 2.

Calculated Cluster 1	Calculated Cluster 2
1	1
1	1
1	1
2	2
3	3
1	1
2	2
3	3
4	4
1	1
3	3
4	4
1	2
1	1
1	1

In the new calculation, it was verified that there is only one different value, but it did not converge to 100%, which led to a recalculation of the following values (Table 9).

Table 9. Comparison of Conglomerate or Cluster calculated 2 and calculated 3.

Calculated Cluster 2	**Calculated Cluster 3**
1	1
1	1
1	1
2	2
3	3
1	1
2	2
3	3
4	4
1	1
3	3
4	4
2	2
1	1
1	1

Based on the comparative data in Table 9, where it is verified that all the data are equal, and therefore converge, the ideal classification to work with to establish the tourist routes or circuits was reached. (Table 10).

Table 10. Final proposal for clusters based on the four identified groups.

Group by Clusters	Grouped
Nature	I1, I2, I3, I6, I10, I14, I15
Gastronomy	I4, I7, I13
Art and culture	I5, I8, I11
Adventure	I9, I12

Based on a series of calculations, including the K-means algorithm and the comparative clustering, the results obtained showed that the Nature cluster group is the one with the highest number of grouped data with 7 values, followed by Gastronomy and Art and culture, each with 3 values, and finally the Adventure group with 2 values. This is due to the fact that this typology of tourism can encompass or embrace the other typologies that are developed within it, and further considerations are required.

With reference to what was previously described, there are multiple tools that allow the development of tourism activity in rural territories; but cluster analysis is applied to generate another category of analysis, for example when measuring the motivation, satisfaction and loyalty of a tourist when deciding on a trip (Devesa Fernández et al., 2010), the analysis of interest through market research (Fernández Robin et al., 2014), or the cluster analysis of the Spanish hotel sector based on financial structures (Such Devesa & Parte Esteban, 2008). However, to date, they have not been considered as a tool that contributes to the planning of a tourist destination.

The main advantage is that this methodology is built in a participatory manner, involving local stakeholders, who provided the basic information. Another positive aspect is the contribution to the tourist planning of a destination, since by segmenting criteria and grouping them by clusters or groups, it is possible to organize in a better way the type of offer that a tourist destination provides, besides paying attention to the variables that should integrate each one of the clusters.

On the other hand, as a limitation, it may be considered that, when applying the cluster methodology, the variables analyzed do not consider all aspects of local tourism activities, thus relevant elements allowing the development of tourism activity are overlooked.

4. Discussion

The updating of information on a tourism destination based on mathematical models allows to contribute to the specific objective of the state of the art; and, therefore, to act on certainties instead of uncertainties. In 2017, methodological tools related to tourism activity were updated in Ecuador, nevertheless the results have not been published. This highlighted the need to generate statistics, so that - through the use of the clustering method- actions can be taken based on reliable data. It must be noted, however, that this information is rarely considered by destination managers, as tourism professionals who can understand new contributions or studies and apply them, are often unavailable in some destinations.

It is important to highlight that all proposed indicators were considered relevant by the co-participants that provided information for this study, thus the respective calculations comprised 15 indicators. In the future, however, as tourism activity develops further, new indicators might be considered and analyzed.

It can be observed that some of the groups by clusters present a variance by clusters higher than 1.0, and other typologies with a lower value, which allows the ability to make decisions and work based on the existing, seeking professionalization in the typologies that present the highest percentage, or on the contrary invest in typologies with lower percentage and generate incentives for projects that are based on these categories which have not yet been exploited.

5. Conclusions

Although the Ministry of Tourism has available methodologies for inventorying tourism resources and attractions, no tool has been designed yet to include rural tourism routes or circuits within these inventories. There-

fore, methodology proposed in this work may constitute an alternative to streamline the process of updating basic information. The tool has been applied in the province of Azuay.

Once the indicators were defined, their reliability was calculated, demonstrating that for the present study all the indicators considered are relevant. The following step was the grouping and comparative analysis of clusters, which demonstrated that, of the proposed groups, nature tourism presents the greatest number of items grouped together. This is explained by the fact that the other types of tourism can be developed within natural areas.

Having an inventory of rural tourism routes and circuits makes it easier to make decisions in the area of promotion and dissemination, being aware of the greater number of routes present in the territory.

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Contributor roles

- Pablo Alejandro Zambrano Flores: conceptualization, investigation (main), methodology (equal), resources (equal), writing - original draft.
- Gabriela Isabel Araujo Ochoa: methodology, review, investigation (support), methodology (equal), resources (equal), validation (equal), writing - review & editing (equal).
- Javier Bernardo Cabrera Mejía: software, resources (equal), validation (equal), writing - revision & editing (equal).

Ethical implications

The authors state that legal and technical justification of compliance with bioethical aspects was not required for the type of data collected.

Conflict of interest

The authors declare that they have no affiliation with any organization with a direct or indirect financial interest that could have appeared to influence the work reported.

References

Altimira Vega, R., & Muñoz Vivas, X. (2007). El turismo como motor de crecimiento económico. *Anuario jurídico y económico escurialense*, *40*, 677-710. https://dialnet.unirioja.es/servlet/articulo?codigo=2267966

Álvarez Freire, M. B. (2015). *Diseño de circuitos turísticos para la empresa pública ferrocarriles del Ecuador en la ruta patrimonial del tren, tramo Riobamba-Huigra, provincia de Chimborazo*. Escuela Politécnica de Chimborazo. https://dspace.espoch.edu.ec/handle/123456789/4251

Andrade, C., Romero, J., Sanaguano, A., & López, W. (comps.). (2013). *Caja de herramientas de apoyo a la gestión territorial del turismo*. Consorcio de Gobiernos Provinciales del Ecuador, Escuela Superior Politécnica de Chimborazo. https://www.competencias.gob.ec/wp-content/uploads/2021/03/02-10IGC2013-CAJA.pdf

Arichávala Ordóñez, A. J., & Pesántez Solano, I. E. (2021). *Análisis de vocación turística del barrio La Convención del 45*. Universidad del Azuay. http://dspace.uazuay.edu.ec/handle/datos/10600

Avendaño-Leadem, D., Elizondo-Campos, M. J., & Méndez Cordonero, S. (2022). Tipologías de emprendimientos turísticos y su análisis espacial como insumo para la propuesta de un producto turístico cantonal - Caso de estudio: cantón de Dota, Costa Rica. *Revista Geográfica de América Central*, *1*(68), 25-54. https://doi.org/10.15359/rgac.68-1.1

Bravo Ochoa, G. L. (2021). *Aplicación metodológica para analizar el potencial turístico de la parroquia rural Uzhcurrumi, del cantón Pasaje, a partir de la Identificación del nivel de su vocación turística*. Universidad del Azuay. http://dspace.uazuay.edu.ec/handle/datos/10735

Calle Lituma, N. S. (2023). Vocación turística y gestión del turismo urbano. *Journal of Tourism Analysis Revista de Análisis Turístico (JTA)*, *30*(2), 51-85. https://doi.org/10.53596/2jxjq690

Covarrubias Ramírez, R., Gómez Hinojosa, C., Cuevas Contreras, T., & Gómez Ceballos, G. (coords.). (2019). *Turismo y vocación Una aproximación teórico-metodológica*. Universidad de Colima. http://ww.ucol.mx/publicacionesenlinea/?docto=481

Cruz, M. L., Bonisoli, L., & Albarracín , J. A. (2022). Entre sentido de pertenencia y potencial de desarrollo: la percepción del turismo en los residentes de Zaruma. *Revista Eruditus*, *3*(1), 9-25. https://doi.org/10.35290/re.v3n1.2022.510

Devesa Fernández, M., Laguna García, M., & Palacios Picos, A. (2010). Motivación, satisfacción y lealtad en el turismo. El caso de un destino de interior. *Revista Electrónica de Motivación y Emoción*, *13*(35-36), 170. https://dialnet.unirioja.es/servlet/articulo?codigo=3683000

Espinosa Lascano, L. G. (2014). *Desarrollo del turismo vivencial en la provincia del Carchi, a través de la creación de un circuito turístico etnográfico*. Universidad Politécnica Estatal del Carchi. http://repositorio.upec.edu.ec/handle/123456789/168

Fernández Robin, C., Cea Valencia, J., Santander Astorga, P., & Melo Orrego, R. (2014). Turismo de intereses especiales: Investigación de mercado sobre las motivaciones desde la perspectiva del cliente. *Revista Internacional Administración & Finanzas*, *8*(1), 51-68. https://ideas.repec.org/a/ibf/riafin/v8y2015i1p51-68.html

Gambarota, D. M., & Lorda, M. A. (2017). El turismo como estrategia de desarrollo local. *Revista Geográfica Venezolana*, *58*(2), 346-359. http://erevistas.saber.ula.ve/index.php/regeoven/article/view/11270

García Armuelles, L. (September 27th, 2023). OMT: 2024 será el año de plena recuperación turística para América Latina y el Caribe. *La Estrella de Panamá*: https://www.laestrella.com.pa/economia/230927/omt-2024-sera-ano-plena

Garcia-Reinoso, N., García-Moreira, D., & Quintero-Ichazo, Y. (2020). Segmentación de la demanda turística colombiana que visitan la Zona de Planificación 1 más la provincia de Pichincha en Ecuador. *Revista Interamericana de Ambiente y Turismo*, *16*(2), 136–152. https://doi.org/10.4067/S0718-235X2020000200136

Garzón, G., & del Val Martín, P. (2017). Importancia del diseño de una ruta de turismo. Un caso de Ecuador. *Revista Mahpat*, *13*, 37-45. https://revistamahpat.com/index.php/rm/article/view/6

Gobierno Provincial Del Azuay. (2021). *Plan de desarrollo y ordenamiento territorial de la provincia del Azuay 2019-2030*. Gobierno Provincial Del Azuay. https://www.azuay.gob.ec/wp-content/uploads/2022/02/PDOT-AZUAY-ALINEADO-PND-2021-2025_compressed.pdf

Gómez Hinojosa, C., Amaya Molinar, C. M., & Mundo Velásquez, R. (2014). Diseño de una metodología para establecer la vocación turística de un destino. Caso Tuxtla Gutiérrez, Chiapas. *Teoría y Praxis*, (Núm. Esp.), 75-100. https://www.redalyc.org/articulo.oa?id=456145101004

Lambogglia Ortiz, J. C. (2014). *Análisis del turismo y su importancia en el crecimiento económico en América Latina: el caso del Ecuador*. Flacso Ecuador. http://hdl.handle.net/10469/7460

Llugsha, V. (ed.) (2021). *Turismo y desarrollo desde un enfoque territorial y el covid-19*. CONGOPE, Ediciones Abya Yala. https://biblio.flacsoandes.edu.ec/libros/152196-opac

López Zapata, L. V., Gómez Gómez, J. S., Spúlveda, W. M., & Ochoa Vélez, A. (2017). Propuesta metodológica para la medición y valoración de la vocación turística dentro de una ciudad. Estudio de caso en las ciudades de Medellín y Bogotá, Colombia: Array. *Estudios Socioterritoriales. Revista De Geografía*, (21), 71-89. https://ojs2.fch.unicen.edu.ar/ojs-3.1.0/index.php/estudios-socioterritoriales/article/view/287

Ministerio de Turismo [MINTUR]. (2017). *Gestión y Desarrollo Turístico*. Ministerio de Turismo: https://servicios.turismo.gob.ec/gestion-y-desarrollo-turistico/

Ministerio de Turismo [MINTUR]. (2018). *Manual de atractivos turísticos*. MINTUR. https://servicios.turismo.gob.ec/wp-content/uploads/2023/04/Manual-de-Atractivos-Turisticos_compressed.pdf

Ministerio de Turismo [MINTUR]. (2019). *Manual de generación de rutas e itinerarios turísticos* (2ª ed.).

MINTUR. https://servicios.turismo.gob.ec/wp-content/uploads/2023/04/Manual_generacion_rutas_itinerarios_sub2021_compressed.pdf

Ministerio de Turismo [MINTUR]. (2020). *Informe de Rendición de Cuentas 2020*. Ministerio de Turismo. https://www.turismo.gob.ec/wp-content/uploads/2021/05/Informe-de-Rendicio%CC%81n-de-Cuentas-2020.pdf

Ministerio de Turismo [MINTUR]. (2022a). *El Ministerio de Turismo presentó su plan de promoción para 2022* . Boletín N° 019: Ministerio de Turismo. https://www.turismo.gob.ec/el-ministerio-de-turismo-presento-su-plan-de-promocion-para-2022/

Ministerio de Turismo [MINTUR]. (2022b). *Rendición de cuentas 2022*. Ministerio de Turismo. https://www.turismo.gob.ec/wp-content/uploads/2023/05/Informe-Rendicion-de-Cuentas-2022-Textual.pdf

Pérez-Castañeira, J. A., Gómez-Figueroa, O., Sangroni Laguardia, N., Santa-Cruz, S. R., Cruz-Blanco, C., & Santos-Pérez, O. (2021). Estudio de modelos que abordan la gestión de destinos turísticos. *Ingeniería Industrial*, *42*(3), 109-119. http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1815-59362021000300109&lng=es&tlng=es

Revista Gestión. (Februay 06th, 2023). El turismo esperanza la economía del Ecuador, pero necesita impulso. *Gestión Digital*: https://revistagestion.ec/analisis-economia-y-finanzas/el-turismo-esperanza-la-economia-del-ecuador-pero-necesita-impulso/

Sánchez Andaur, R., & Morales Yamal, A. (2021). *Rutas y circuitos turísticos étnicos Mataquito*. Universidad Autónoma de Chile. Informe del proyecto "Transferencias Rutas Patrimoniales cuenca Mataquito". https://repositorio.uautonoma.cl/entities/publication/6e32b6e9-dbd4-4d2a-b302-cb574ee2f5b5/details

Such Devesa, M. J., & Parte Esteban, L. (2008). La identificación de conglomerados en el sector hotelero español a partir de la estructura financiera. *Cuadernos de Turismo*, (21), 239-252. https://revistas.um.es/turismo/article/view/25061

Vasconez-Alvarado, L. F., & Vasconez-Macías, J. F. (2022). Los circuitos turísticos costeros como estrategia de innovación territorial en la zona norte de Manabí. *Dominio de las Ciencias*, *8*(1), 1246-1262. https://doi.org/10.23857/dc.v8i1.2554