

ORIGINAL RESEARCH ARTICLE

Methodology for the integrated and intelligent management of tourist destinations in Manabí in Ecuador

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ABSTRACT

Objective: To systematize methodologies that harmonize the integrated and intelligent management of tourist destinations with geographic information, for timely and accurate decision making, contributing to quality in the context of the cantonal tourist territories of the province, Manabí-Ecuador.

Methodology/approach: The paradigms of tourism destination management that reconciles all participants, policies, components and parts of the system; expressed in an integrated management. The use of information and communication technologies in an intelligent management that welcomes tourists, communities and managers. Everything in tourism is tied to space and territory, the information systems that are used need to respond to the “where” by means of analysis tools and representation of the places.

Originality/Relevance: The sequence of steps of various methodologies and systematized theory, focus the integrated and intelligent management of tourist destinations, in the transit from the parts to the whole. In practice it implies, the voluntary participation of entrepreneurs, interested in the homogeneous improvement of tourism quality in the territory.

Main results: A theoretical model of the concepts that shape the understanding of the integrated and intelligent management of tourist destinations and territories for the improvement of quality. A methodology reconfigured from others, for the implementation of the theoretical model.

Theoretical / methodological contributions: Guidance for decision making in tourist territories and of understanding by entrepreneurs and managers, to revert the improvement of their businesses, in the homogeneous improvement of the tourist quality of the tourist territories and destinations of the province Manabí.

Keywords: integrated management; intelligent tourism; destination management; quality improvement; tourism territories

1. Introduction

The management of tourist destinations is currently undergoing a transformation, due to the impact of information and communication technologies (ICT), as well as the participation of the entities involved, aspects that are of key importance for their

quality and image. Gómez-Oliva, Alvarado-Uribe, Parra-Merono, Jara^[1]; García-Milon, Juaneda-Ayensa, Olarte-Pascual, Pelegrín-Borondo^[2], Kiatkawsin, Sutherland, Lee^[3], Shen, Sotiriadis, Zhang^[4]; that there is a growing need for new ICT solutions for smart tourism destinations, because the new dig-

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ital visitors have evolved to smart and use new technologies to plan and enjoy trips and visits; they exchange data, interact and co-create experiences.

Inclusion and social participation constitute intrinsic elements to tourism spaces and destinations, because in that way they link with each other^[5]. Also, there is a very important gap in the tourism sector where Quality Management Systems are implemented based on specific standards for each of the subsectors that compose it^[6]. The biggest challenge is to successfully face the change of mentality in destination management^[7]. Threading together all the aforementioned aspects, constitutes a challenge that the managers of the different territories and tourist destinations have to assume.

For decades, the Integral Program of Spanish Tourism Quality (PICTE 2000-2006) and the current expression of the Integral System of Spanish Tourism Quality in Destinations (SICTED) have stood out worldwide. As a project and model, it “arises from the need to provide a solution capable of integrally managing the quality of a tourist destination. This approach implies that quality is not only addressed for a specific trade or company, but for all the services offered in a tourist destination”^[8]. Also in Spain, with the start of the National and Integral Tourism Plan (2012-2015), smart tourism destinations (DTI) have been developed, where a series of lines of work are designed for their formalization, in collaboration with the Sociedad Estatal para la Gestión de la Innovación y las Tecnologías Turísticas, S.A. (SEGITTUR)^[9].

The basic principles of the referred Spanish experiences can be applied in other Latin American environments, specifically in Ecuador and in the province of Manabí. Certain aspects that characterize SICTED and DTI-SEGITTUR, with a configuration for such a context. In correspondence, it is sought to prepare a methodology that strategically favors the integrated and intelligent management of tourist destinations using geographic information.

These are management problems for tourism development in the province of Manabí: inequity and weakness of tourism services, pollution pressure, resource extraction and population growth in the coastal strip, lack of quality certification in accommodation and food services, insufficient oversight and regulation of tourism activities, limited innovation in travel agencies and tour operators, informal sector competing with legally constituted activities, disarticulation between different levels of government, problems of a social nature with unmet basic needs, separation between development objectives and reality of the territory^[10].

Among the priority shortcomings listed by the Zonal Agenda 4 (2017–2020) is the weak use of the potential and diversity of resources by the tourism sector. The reality of the province of Manabí requires promoting investment and entrepreneurship at the local level, taking advantage of the tourist attractions of the Zone, through the improvement of infrastructure and tourist services, with a focus on environmental sustainability and articulation of the different institutional, business and community actors^[11].

The interpretation of the above aspects supports the formulation of the problem: How to contribute to the management of destinations that contribute to quality in the context of the cantonal tourist territories of the province of Manabí, Ecuador?

The object of research focuses on the management of tourist destinations and the specific field of action is a methodology that harmonizes the intelligent integrated management of tourist destinations and geographic information, for the improvement of quality. The general objective is to systematize selected methodologies that harmonize these management criteria for timely and accurate decision making, contributing to quality in the context of the cantonal tourist territories of the province of Manabí, Ecuador (**Figure 1**).

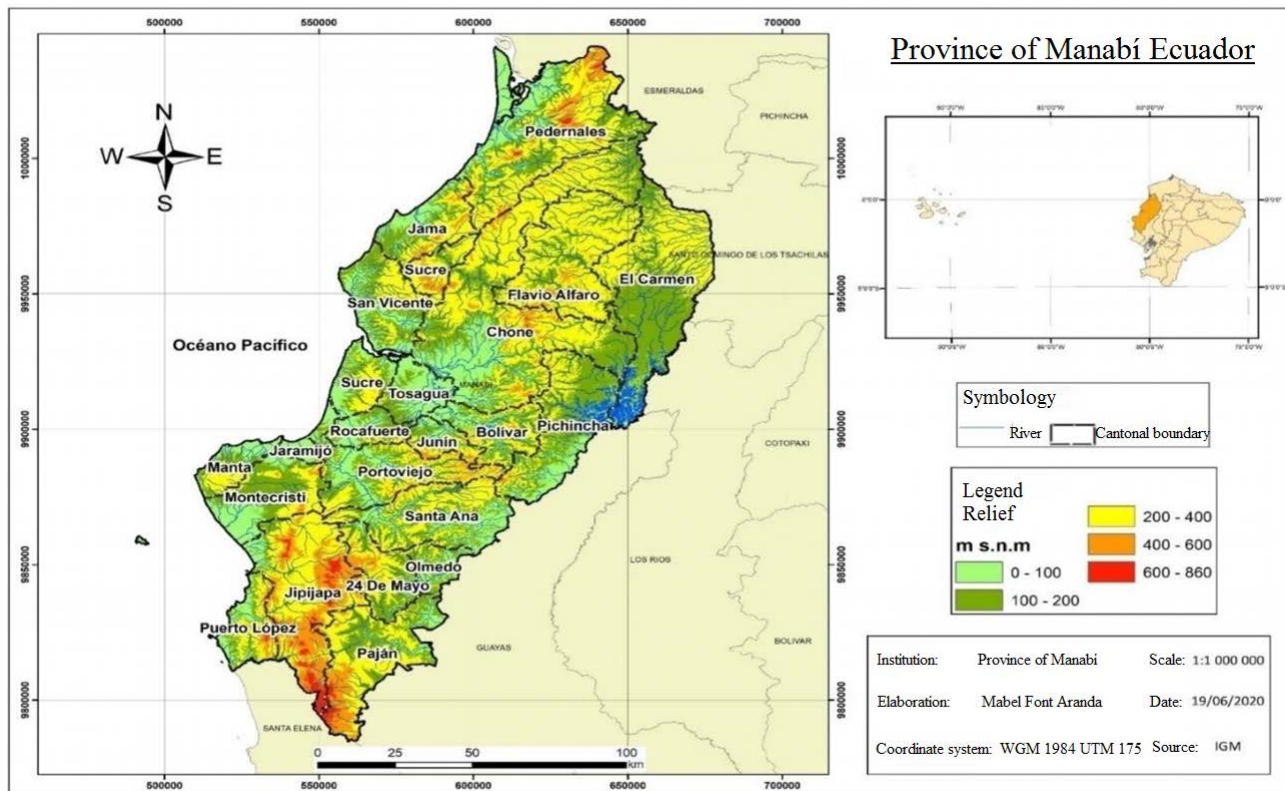


Figure 1. Province of Manabí, Ecuador

Source: Own elaboration based on the layers of the Military Geographic Institute of Ecuador.

2. Integrated and intelligent management of tourism destinations and territories

Tourism-related management is inevitably linked to the notion of geography, in one way or another. This is since the activity is generated, given the movement of people from their usual places. All of this is motivated by the desire to experience certain sensations in other contexts, where there are attractions and services that support diverse interests. UNWTO^[12] states that a tourist destination is a physical space, with or without an administrative or analytical delimitation, in which a visitor can stay overnight. It is a grouping (in the same location) of products and services, and of activities and experiences, in the tourism value chain, and a basic unit of analysis of the sector. A destination incorporates different agents and can extend networks to form larger destinations. It is also immaterial, with an image and an identity that can influence its competitiveness in the market.

A Smart Tourism Destination (ITD) can be understood as “an innovative tourist space, accessible to all, consolidated on a cutting-edge technological

infrastructure that guarantees the sustainable development of the territory, facilitates the interaction and integration of the visitor with the environment and increases the quality of their experience in the destination and the quality of life of the residents”^[13]. In this context, Salessi^[5] points out that four concepts are central axes such as: innovation, technology, universal accessibility and sustainability, which constitute the structural requirements for the creation of new models of smart tourism destinations (DTI), add governance, Secretary of State for Tourism-SEGITTUR^[13], UNWTO^[14]. A smart tourism destination, also depends on smart tourists. In addition, businesses should collaborate not only with other businesses but also with destination management organizations^[3].

The management of smart destinations has its antecedent in the management of smart cities, the pillars or dimensions of which also support destinations: mobility, governance, populations, quality of life, economy and environment^[15]. In tourism destination management, the destination management/marketing organization (DMO/DMO) stands out, made up

of various authorities, agents and professionals, in a collective configuration. Destination management organizations (DMOs) include different structures and the trend is towards public-private partnerships, and their essential function is to initiate, coordinate and manage certain activities, such as the implementation of tourism policies, strategic planning, product development, promotion and marketing and convention work^[14].

In this area, we assume the premise put forward by Salessi^[5] that inclusion and social participation are intrinsic elements of tourist spaces and destinations, so that intelligence and inclusion are linked to each other. These aspects are considered in the integrated management of the destination. Salessi^[5]

continues by expressing that smart tourism destinations are nourished by data, open government, and citizen participation configured in a highly flexible and dynamic matrix. According to Celdrán-Bernabeu et al.^[16], the concept intelligence focuses on the technical capacity to offer the right services to users, it also relates to the experience or the outcome of an experience. In addition, residents can enjoy many of the high value-added services in smart destinations, making more efficient and accessible public services available to them, and improving their knowledge and use (including the enjoyment of heritage and tourist attractions)^[17]. **Figure 2** synthesizes the previous readings and incorporates the common features of smart territories declared by López de Ávila^[18].

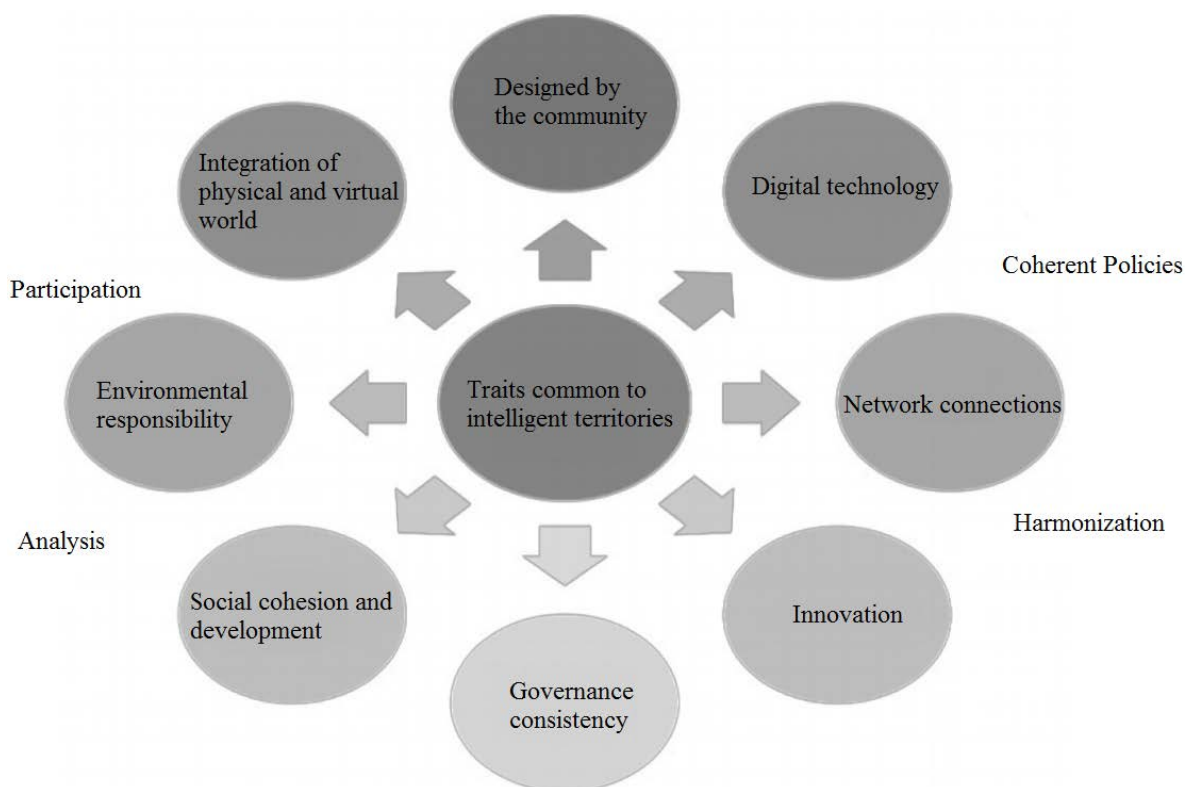


Figure 2. Traits common to smart territories.

Source: Own elaboration based on the different authors.

The sharing of good practices with other tourist destinations will be promoted, in order to obtain areas of improvement—surpassing—in terms of the provision of quality tourism products and services, and the detection of common problems between municipalities or communities, building replicable models that act as a reference guide in other cities or

destinations interested in this vision of collective project^[5]. The value of the smart destination—conclude Crespo^[17] is expressed in a complex phenomenon with a multidimensional perspective, which requires examining the influence of the attitudes and behaviors of the various actors or stakeholders of the territory, residents or tourists, among others.

3. Quality of a tourism destination or territory

Quality in the field of tourism acquires various nuances and connotations, its approach from the types of tourism businesses or destination, is subject to standards or criteria of perception. Luis del Campo et al.^[19] asserts that in relation to the quality of the companies that provide the service, it should be noted that there are various generic quality models and systems focused on processes (ISO 9000 and 9001 standards). However, depending on the diversity of profiles and interests, the assessment of quality in tourism will change and acquire different patterns.

In the search for better alternatives, the link with the external and internal client is becoming increasingly important. At the level of the tourist destination, quality becomes more complex, since, in addition to how the business sector manifests itself individually or collectively, the feelings of the community, the state of the environment, and the tourist attractions that support the offers and activities are added.

The quality of service is a determining factor in customer satisfaction^[20], as perceived it is considered the degree and direction of discrepancy between consumers' perceptions and expectations^[21]. Customer satisfaction is the main variable with respect to superior value delivery, it is prominent factor in retaining a loyal customer; it is derived from customer company interaction, building better customer experience and satisfaction. In consideration of visitor heterogeneity, increasingly the value co-creation with customers has become a relevant topic, both in academia and management^[22].

The relationship between service quality and customer behavior is often examined, but customer subjective well-being has not been examined as a consequence^[20]. This author himself, emphasizes that "while service quality is an overall assessment

of a performance, relationship quality is a strategic orientation that focuses on improving customer relationships as a strategic approach". He highlights Lages et al. who represents relationship quality as the amount of information exchange, the quality of communication, long-term orientation, and satisfaction with a relationship. From the above-mentioned authors, it is clear how much intelligent management of tourist destinations and territories can contribute.

The quality of a tourist destination is the result of a process involving the satisfaction of all consumer needs, requirements and expectations with respect to tourism products and services, at an acceptable price, in accordance with mutually agreed contractual conditions, and implicit underlying factors, such as safety, hygiene, accessibility, communication, infrastructure and public facilities and services. It also considers aspects related to ethics, transparency and respect for the human, natural and cultural environment. Quality, being one of the key drivers of tourism competitiveness, is also a professional tool for tourism providers for organizational, operational and image purposes^[14]. All these aspects constitute data that can be expressed in a geo-referenced information system and are essential for the intelligent management of territories and destinations. The systematization of quality contemplates three levels of action: organizational, operational and recognition^[23]. In line with this, SICTED is a quality project for tourist destinations, aimed at improving the tourist experience and satisfaction. It is based on the joint work of destination managers and tourism entrepreneurs. Ivars-Baidal and Vera^[24] state that, in the recent evolution of tourism planning in Spain, SICTED has been the basis for integral quality, but the Smart Tourism Destinations initiatives proposed by SEGITTUR, which are not interconnected projects, are a novelty. The objectives of SICTED are to create a permanent structure for the management and promotion of quality, to apply basic quality standards and to recognize the efforts of the participants^[8]. (**Table 1**).

Table 1. Key questions about the integrated tourism quality system in destinations

Question	Description
What?	Project, model, approach, methodology
Who?	Managers, companies, agents and tourism service providers (Voluntary)
How?	Integrated, participatory, intelligent
What for?	To improve the quality, experience and satisfaction of tourists.

Source: Own elaboration based on Secretary of State for Tourism^[8,25].

This methodology is based on the concept of consumption itinerary, in which the same tourist is served by professionals from different trades, having

to perceive a balanced level of attention in the tourist destination^[8], that is why it must meet certain characteristics (**Table 2**).

Table 2. The characteristics of SICTED

Characteristics	Description
Integrative and participatory	All tourism stakeholders of the destination are united for the improvement of service delivery and the satisfaction of tourists and communities.
Creates competitive advantages.	Facilitates monitoring and control for visitor satisfaction and continuous improvement.
Structured	It is structured in three axes: manager, best practices manual and control panel.
Flexible	Given the diversity of territorial units, typologies and modalities of tourism in the destination, the dissimilar configurations require malleability.
Integral	It affects all the components of the tourism system.
It stimulates other technological products.	Stimulates the insertion of different information and technological systems that will result in the continuous improvement of quality.
Results-oriented	Results are measured through indicators.
Organized by processes	Each management typology follows a logical sequence of activities in sub-processes.

Source: Own elaboration based on Secretaría de Estado de Turismo^[8].

In the SICTED methodology, the set of voluntary good practices that apply to more than 35 trades in the Tourism sector is key^[26]. These practices are registered in manuals, and have two functions: an individual one to serve as a tool for companies to establish a quality management system; and a collective one: to provide indicators for the destination's improvement plan, according to the degree of compliance with these^[27].

The good practice manuals are the axis for the improvement of SICTED, they are structured in chapters and in turn in modules. There are four chapters that are organized from the general to the particular up to Chapter III: Intersectoral, Main Activity and Complementary Activity. The fourth chapter, Advanced, includes cross-cutting aspects such as sustainability and innovation and is voluntary. The whole system is organized in cycles.

Regarding quality control, Corral-Marfil^[27] states that it involves indicators of the situation and

evolution of the quality of the destination. Indicators referring to tourism subsectors (accommodation, catering), other subsectors (commerce, health) and attributes shared by various agents, but perceived globally by visitors (cleanliness, public safety, infrastructure). The entire methodology is supported by Information Systems with geographic expression.

4. Theoretical-methodological conception for the integrated and intelligent management of tourist destinations and territories

The theoretical and methodological conception built is shown in **Figure 3**, and systematizes all the theoretical precepts previously addressed. The reading made from the base, allows the interpretation of different criteria.

1-Tourism is an activity that takes place in spaces and territories, where the genuine owners, the communities, are based.

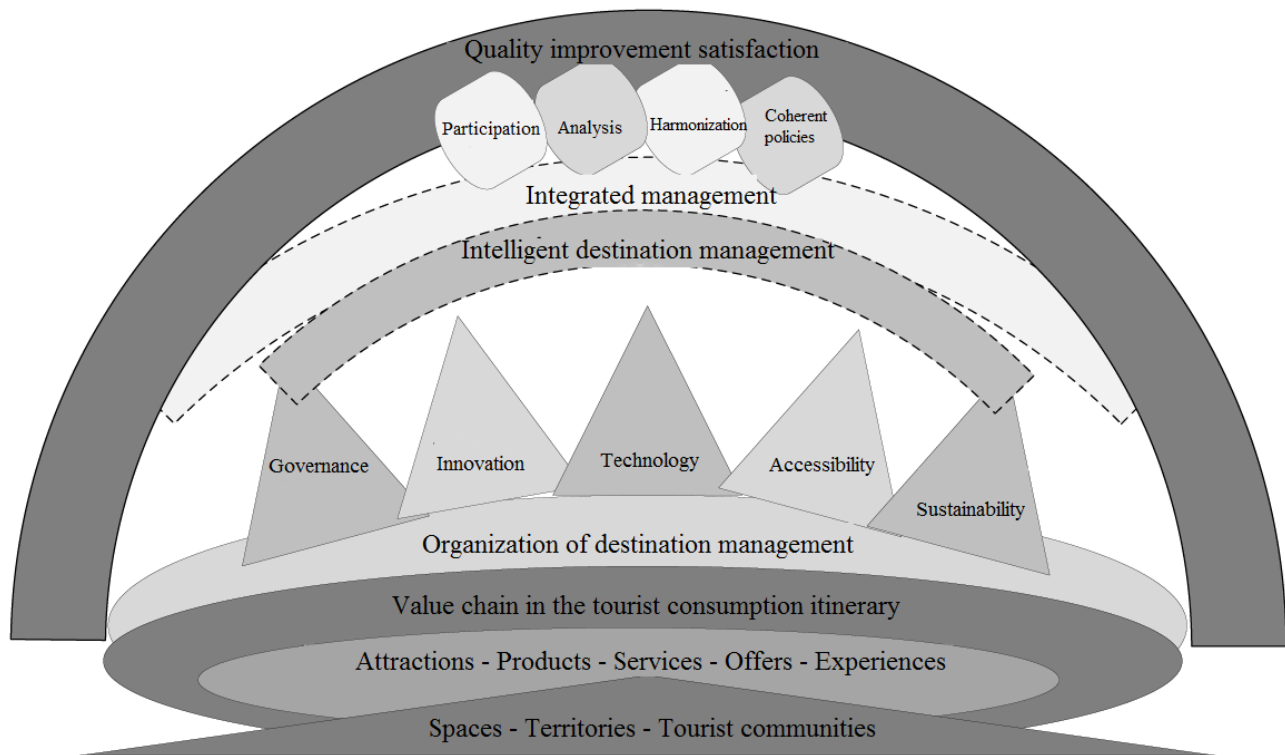


Figure 3. Theoretical methodological conception for integrated and intelligent management of tourism destinations and territories. Source: Own elaboration.

2-In the tourist spaces and territories there are resources and attractions, around which products, offers, services and experiences are configured; that motivate displacements, because they are immovable.

3-Around this gear develops the itinerary of the tourist's consumption, who all the time buys services and acquires experiences.

4-Indivisibly the above, should be developed in a Tourist Destination Organization.

5-In order to achieve an intelligent management of tourist destinations, the pillars are: governance, innovation, technology, accessibility and sustainability.

6-Integrated management is achieved if there is participation of the parties involved, alliances between public, private and community organizations and companies, harmonization of the different processes based on coherent policies.

7-As a result, quality improvement encompasses each of the parties and therefore the satisfaction of all those involved.

The theoretical and methodological conception is explained from the point of view of different authors. The original content, created by the communities of residents, is more attractive for the new digital visitor, the intangible heritage has a high value for the towns to build a local brand; the communities of neighbors have a great interest in participating and collaborating with their municipality^[1]. The study developed by Pai et al.^[28] shows that most tourists have a positive intention to use smart tourism technologies and that destination management organizations can create specific activities and experiences for tourists through these, especially in terms of personalization. A smart management approach will lead to the development and growth of the tourism industry in the territory, with positive externalities through the creation of jobs and wealth for the local population^[17].

Regarding smart and integrated management, the development of smart destinations is still in the initial phase, the adoption of relevant technological strategies to align it with the requirements stipulated by the smart model goes hand in hand with the citizen dimension and its participation as a pillar^[15].

Smart technologies include a variety of computing and information technologies, such as: Internet of Things, Cloud computing technology, Artificial intelligence, Mobile communication technology, Mobile applications and devices, Mobile applications and devices, Big Data, Connection between Wi-Fi and other networks, Virtual and augmented reality, Intelligent chat robot, Wearable devices, Beacon network^[4]. The core of the development of the smart tourism management system is the database. All the data of the system operation process, are managed by data storage and database mining^[29]. Tourism managers are responsible for increasing the development of smart destinations, developing destinations based on innovation, technology, accessibility and sustainability^[30]. An innovative communication channel that builds agile experiences, increases cultural diffusion and validity of the feasibility of creating a sustainable cycle of content through the cooperation of visitors and digital prosumers^[1].

And since, everything in tourism is settled in space and territories from the mobility of the visitor who consumes services, products and local experiences; it agrees with Afnarius et al.^[31], when they point out that it requires the use of Smart Technology through the application of Internet and Geoinformatics. Also, additional technologies, such as Global Positioning System (GPS), remote sensing, web services, and location-based services. However, the most important components include geospatial data and Geographic Information Systems.

In terms of improving quality and satisfaction, the appropriate use of smart technologies can contribute to engaging and memorable experiences that generate benefits for all stakeholders in the framework of smart tourism management^[4]. People can virtually visit places and participate in activities with their smartphones before visiting the place. Smart tourism information sources should be informative, accessible, interactive and flexible; as these attributes are aimed at traveler satisfaction^[32]. Smart tourism involves all aspects of tourism, including transportation, accommodation, and attractions. When tourists have positive emotions and attitudes towards

smart tourism technologies, their destination experience will be satisfied. As a result, travel satisfaction produces tourism happiness^[28].

5. Methodology for the integrated and intelligent management of tourism destinations, Manabi, Ecuador

Referring to research results, Barreras Hernandez^[33] said that a methodology is the set of methods, procedures, techniques, which, regulated by certain requirements, allow to order the thinking and modes of action to obtain and discover new theoretical knowledge or the solution of problems of practice. The methodology presented here is a theoretical-practical contribution. It reflects a sequence of steps with the objective of contributing to the integrated and intelligent management of tourist destinations and territories in the province of Manabi, Ecuador. The need for a change of management in such contexts is expressed in **Figure 4**.

It shows a set of methods, procedures, techniques, according to requirements, to order the modes of action in the solution of practical problems already declared, regarding the tourism development of the spaces and territories proper to the present research field, its implementation will have an impact on the transformation of current state and will increase the satisfaction of the visitor and the communities.

The present research uses methodological antecedents already cited from the Spanish Secretary of State for Tourism regarding the Integral System of Spanish Tourism Quality (SICTED) and the Intelligent Tourism Destinations of the State Society for the Management of Innovation and Tourism Technologies, S.A. (SEGITTUR). Although the scenarios are totally different, we take those key aspects that flow in the context of Manabi, Ecuador. The methodology to be used (**Figure 5**) has as its essence the transforming experimental character and the inductive approach, since it starts from the voluntary decision of the entrepreneurs to submit themselves to the experiment and transform management styles.

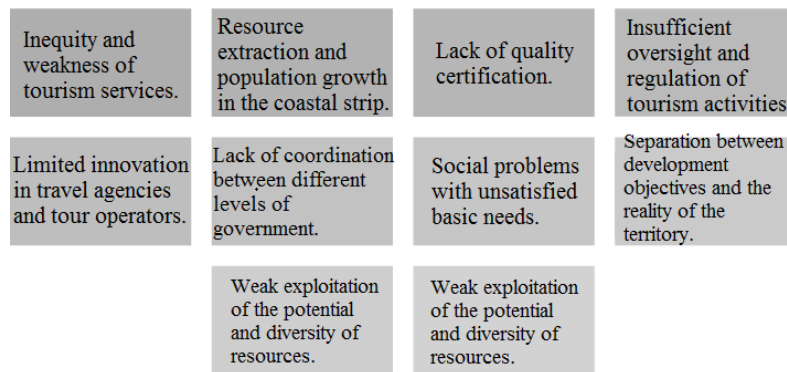


Figure 4. Problem statement for an integrated and intelligent management in Manabi, Ecuador.

Source: Own elaboration based on Proaño and Ramirez Pérez^[10] and SENPLADES^[11].

Table 3. Elements of the methodology

Elements	Description
1. Objective to be achieved	To contribute to the integrated and intelligent management for timely and accurate decision making, contributing to quality in the context of the cantonal tourist territories of the province, Manabi-Ecuador.
2. Object of study, concepts and categories that describe and explain it.	Integrated and intelligent management of tourist destinations and geographic information, quality improvement in the province of Manabi, Ecuador.
3. Foundation: problem and theories to which it responds.	Theoretical and methodological conceptualization.
4. Elements that intervene in its structure.	Steps or phases to follow in the instrumentation of methods, techniques, means and procedures.

Source: Own elaboration.

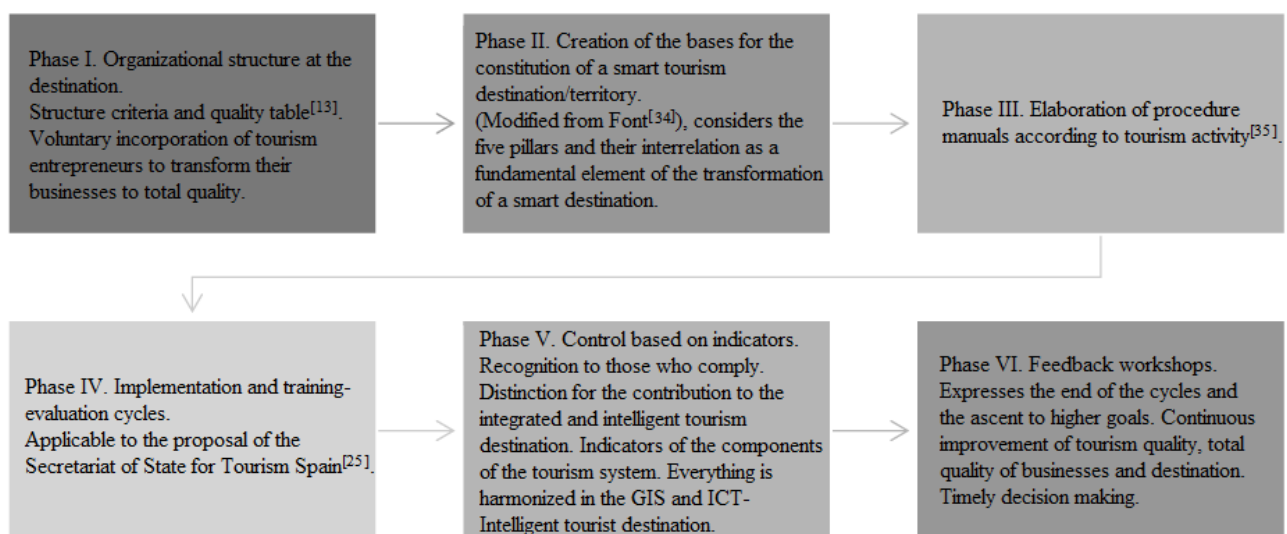


Figure 5. Proposed methodology.

Source: Own elaboration.

With an integrated and intelligent vision, focused on quality improvement, other companies and communities that request it will be enrolled. Under the guidance and supervision of local governments and the instructive role of the Academy in personalized training, the modes of action will be modified.

The other two methodologies that are systematized in this proposal are Font^[34], which reconfigured,

expresses how to approach the tourism system in the field of geographic information: spaces, supply, demand, tour operators. From Font et al.^[35] the procedure for the elaboration of procedure manuals is obtained, appealing to a sequence of steps, which starts from a declaration of intentions, the process map according to type of company, the diagnosis of interests, lack of knowledge, problems and processes, plus

suggestions of good practices for quality improvement. As those involved innovate and incorporate ICTs into their products, offers and experiences, they swell the team of trainers and stimulate the incorporation of new volunteers, resulting in a homogeneous improvement of the tourist destination or territory.

6. Conclusions

The results of the work show a synthesized, illustrated and modeled understanding of the different aspects related to integrated and intelligent management in tourism. It emphasizes the derivation from the spatial/territorial connotation of the activity and its attributes, to the forms and pillars of destination management organizations focused on quality improvement.

The comparative study of other methodologies implemented for integrated and intelligent tourism management, facilitates a conception and the structuring of a sequence of phases feasible to apply in the Ecuadorian context of the province of Manabí. It incorporates participation, alliances, technologies and geographic information systems as key axes; aspects that have an impact on the improvement of quality and satisfaction based on accurate and timely decision making.

The proposed methodology goes through six main phases: formation of an organization and the voluntary incorporation of businessmen and communities, creation of the pillars and structuring of geographic information, elaboration of good practice procedure manuals, implementation of training cycles, recognition of quality improvements, recording of information technology indicators, with emphasis on geographic information, end of cycles and promotion to higher goals.

The problems identified regarding tourism management in the province of Manabí and therefore for the cantons that compose it, can be mitigated or solved if the methodology proposed for the integrated and intelligent management of tourism destinations in the territory in question is applied.

Conflict of interest

The authors declare no conflict of interest.

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