COFFEE TOURISM PLAN WITH A PERSPECTIVE WITH INTERNET OF THINGS AND BLOCKCHAIN TECHNOLOGY, IN THE QUECHUA INDIGENOUS COMMUNITY

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SUMMARY

Welcome to the exciting world of coffee tourism with an INTERNET OF THINGS (IoT) twist in the Quechua indigenous community in Colombia. This project is an initiative of the **FUNDACIÓN BOSQUE COLOMBIANO** in agreement with the Quechúa community, which has been involved in the production and commercialization of coffee for generations. In order to diversify their income and offer visitors a unique experience, they have decided to use IoT technology to improve the efficiency and quality of their coffee production, as well as to enrich the coffee tourism experience.

The Quechúa community is made up of more than 300 families that are mainly dedicated to the cultivation of coffee and the production of traditional handicrafts. Most of the families live in small houses located on the slopes of the mountains and are surrounded by beautiful natural landscapes. The community members are very friendly and hospitable and are eager to share their culture and traditions with visitors.

Coffee tourism is an enriching and unique experience that allows visitors to immerse themselves in coffee culture and learn about the coffee production process, from planting to cup. Visitors will be able to interact with local farmers and learn first-hand about the hard work that goes into growing and producing the high-quality coffee that is exported around the world.

With the incorporation of IoT technology in coffee production, the Quechua community has improved the quality and efficiency of their coffee production. Sensors installed in the coffee fields allow farmers to monitor the level of soil moisture and ambient temperature to ensure that the coffee is grown in ideal conditions. In addition, the use of IoT technology also allows farmers to monitor coffee maturity and optimize harvest time, resulting in better coffee quality and flavor.

In summary, this coffee tourism project with a touch of IoT technology is a unique and unforgettable experience that allows visitors to enjoy beautiful natural landscapes, learn about the culture and traditions of the Quechua community, and experience the delicious coffee produced in the region.

1. METHODOLOGY

The implementation of coffee tourism based on technology of things (IoT) implies the use of electronic devices and sensors to capture, process and share data in real time in the coffee production chain and its subsequent commercialization. Next, a technical methodology to implement IoT-based coffee tourism is described, emphasizing the products and services provided.

1.1. Identification of the objectives and needs of tourists

The first step to implement IoT-based coffee tourism is to identify the objectives and needs of tourists. This can be achieved by conducting market research, surveys and interviews with tourists to understand their interests, preferences and expectations regarding their coffee tourism experience.

Identifying the objectives and needs of tourists is a fundamental step in the implementation of IoT-based coffee tourism, as it allows understanding what tourists are looking for and expecting from their coffee tourism experience. This information is essential to design and offer tourism services and products that meet the needs and expectations of tourists, which in turn can increase their satisfaction and loyalty, and improve the profitability of the business.

To identify the objectives and needs of tourists, it is necessary to carry out market research to obtain information on consumption patterns, trends and preferences of tourists. Some sources of information may include surveys, interviews with tourists, social media analysis, market research, and analysis of booking data.

Some of the common goals and needs of tourists that relate to coffee tourism may include:

Knowledge about the coffee production process: Many tourists are interested in learning about the coffee production process, from planting to cup. This includes visits to coffee plantations, processing factories and outlets.

High-quality coffee tasting: Tourists may be interested in tasting different varieties of coffee and learning about their characteristics, aroma, flavor, and origin. They may also be interested in learning coffee preparation techniques and purchasing high-quality coffee products.

Cultural experience: Some tourists seek authentic cultural experiences, such as interaction with local coffee farmers, participation in traditional activities, and immersion in local culture.

Social and Environmental Responsibility: Many tourists are interested in supporting socially and environmentally responsible and sustainable practices. This can include visits to organic coffee plantations, learning about community development programs and supporting local farmers.

In conclusion, the identification of the objectives and needs of tourists is a critical step in the implementation of coffee tourism based on IoT, since it allows designing and offering personalized and high-quality tourism services and products that meet the needs and expectations. of the tourists. This in turn can improve tourist satisfaction and business profitability.

1.2. Selection of IoT devices and sensors

Once the needs of tourists have been identified, it is necessary to select the appropriate IoT devices and sensors to implement the coffee tourism solution. This can include coffee quality monitoring devices, temperature and humidity sensors, supply chain tracking devices, among others.

The selection of IoT devices and sensors is a critical

task in the implementation of IoT-based coffee tourism, since these devices are responsible for collecting and transmitting real-time data about the coffee production process and the tourist experience. Therefore, it is necessary to carefully select the devices and sensors that best suit the needs and objectives of the tourism business and the specific characteristics of coffee production.

To select the right IoT devices and sensors, it is necessary to carry out an analysis of the system requirements and the characteristics of the devices available on the market. Some factors to consider may include:

Interoperability: the selected devices must be able to interact with other devices and systems in the IoT ecosystem, which will allow the integration of the data and its analysis.

Connectivity: It is important to select devices with extensive and secure connectivity options, such as Wi-Fi, Bluetooth, Zigbee, Lora WAN, among others.

Precision: sensors must be precise and reliable in measuring variables related to the coffee production process and the tourist experience, such as temperature, humidity, pH, among others.

Durability: IoT devices and sensors must be strong and durable to withstand environmental conditions and constant use.

Scalability: it is necessary to select devices that can adapt to the growth and expansion needs of the tourism business.

In addition, it is important to consider the cost of the devices and sensors, their ease of use, and their ability to support future upgrades and enhancements.

In summary, the selection of IoT devices and sensors is a critical process in the implementation of IoT-based coffee tourism. A detailed analysis of the needs and objectives of the tourism business must be carried out, as well as the characteristics of the devices available on the market, in order to select the most appropriate devices and sensors that best suit the needs of the project.

1.3. Installation of IoT devices and sensors

Once the IoT devices and sensors have been selected, they are installed in coffee plantations, processing factories and coffee outlets. The installation of IoT devices and sensors must be carried out by specialized technical personnel to guarantee their correct operation and avoid damage to the devices.

The installation of IoT devices and sensors is a crucial stage in the implementation of IoT-based coffee tourism, as it enables real-time data collection and transmission for further analysis. To achieve a correct installation, a series of technical and careful steps must be followed to guarantee the correct operation of the devices and the quality of the data collected.

First, an analysis of the optimal location for each device and sensor must be performed, taking into account factors such as distance, installation angle, signal coverage, and exposure to harsh environmental conditions. For this, it is necessary to carry out a technical survey of the space where the devices and sensors will be installed.

Once the optimal location for each device and sensor has been determined, they are installed following the manufacturer's instructions. For devices such as cameras and routers, a nearby and stable source of electrical power must be available. For sensors, they need to be fixed in the proper position and make the connection with the data collection device.

Once installed, the connectivity and correct operation of each device and sensor must be verified. To do this, real-time data transmission and connection tests can be performed to verify that devices are working properly and that accurate and useful data is being collected.

Finally, final tests and adjustments must be carried out to ensure the integration of the devices and sensors with other systems and the quality of the data collected. Maintenance and monitoring protocols must

also be established to ensure the continuity of the operation of the IoT system over time.

In conclusion, the installation of IoT devices and sensors is a technical and critical task in the implementation of IoT-based coffee tourism. Careful steps must be taken to ensure the proper functioning of the devices and the quality of the data collected, which will allow for accurate and useful analysis of the information collected.

1.4. Data integration

Once the IoT devices and sensors are installed, it is necessary to integrate the data generated by them into a unified data management system. This allows tourists and coffee tourism managers to access real-time data and make informed decisions.

The integration of the data is a crucial stage in the implementation of coffee tourism based on IoT, since it allows the unification and analysis of the data collected by the different devices and sensors in real time. To achieve successful integration, a series of careful and technical steps must be followed to ensure the quality of the data and the effectiveness of the analysis.

First of all, a communication protocol must be established between the different devices and sensors, which will allow the transfer of the collected data to a central platform. For this, different communication technologies can be used such as MQTT, HTTP, CoAP, among others, depending on the needs and objectives of the project.

Once the communication protocol is established, the data integration is proceeded by using data integration tools such as Apache Kafka, Apache Nifi, AWS Glue, among others. These tools allow the unification of the data in a single place and its transformation into a common format that is compatible with the analysis and visualization tools.

Subsequently, data cleansing and transformation must be performed to remove erroneous or inconsistent data and to ensure that the data is in a readable format for analysis. For this, data cleaning and transformation tools such as Apache Spark, Pandas, among others, can be used.

Finally, analysis and visualization of the integrated data must be carried out to obtain useful and valuable information. To do this, you can use data analysis and visualization tools such as Power BI, Tableau, Python, R, among others.

In conclusion, data integration is a technical and critical task in the implementation of IoT-based coffee tourism. Careful steps must be taken to ensure the quality of the data and the effectiveness of the analysis, which will allow useful and valuable information to be obtained for decision making.

1.5. Development of tourist services and products

With the data generated by IoT devices and sensors, it is possible to develop personalized and high-quality tourism services and products. This may include guided tours of coffee plantations, coffee tastings, barista courses, and the sale of coffee products at outlets.

The development of tourist services and products is a fundamental stage in the implementation of coffee tourism based on IoT, since it allows the creation of a value offer for tourists who visit the destination. At this stage, products and services must be developed that offer unique and memorable experiences to tourists, based on the information collected by IoT devices and sensors.

To develop tourism products and services, a series of careful and technical steps must be followed, including the identification of market segments, the definition of the objectives and needs of tourists, the elaboration of a marketing strategy, among others.

Below is a portfolio of tourism products and services that could be offered in an IoT-based coffee tourism destination:

Smart Coffee Tour: This tour includes a guided tour of

the coffee plantations, where you can observe the coffee growing and harvesting processes. In addition, a visit to the data center is included where you can see the IoT devices and sensors used to monitor and control the coffee production process.

Smart Coffee Tasting: This experience includes a coffee tasting guided by experts in which IoT devices are used to measure the different properties of the coffee, such as acidity, aroma, flavor and texture. In addition, information is provided on the different varieties of coffee and production processes.

Smart Hiking: This tour offers a guided hiking experience along trails and natural landscapes where IoT sensors have been placed to measure air quality, temperature, and humidity. Tourists will be able to learn about the relationship between the environment and coffee production.

Smart hosting: This hosting service is carried out in an accommodation where IoT devices are used to control lighting, temperature, security, among other aspects. Tourists will be able to have a lodging experience in a technological and sustainable environment.

In conclusion, the development of tourism services and products is a technical and critical task in the implementation of IoT-based coffee tourism. Careful steps must be taken to ensure the creation of a value proposition for tourists that offers unique and memorable experiences based on the information collected by IoT devices and sensors.

1.6. Performance monitoring and evaluation
Finally, it is important to constantly monitor and evaluate the performance of the IoT-based coffee tourism solution. This makes it possible to identify opportunities for improvement and guarantee the satisfaction of tourists and the profitability of the business.
Performance monitoring and evaluation is a critical stage in the implementation of IoT-based coffee tourism. This stage aims to measure and analyze the performance of the IoT devices and sensors used in the tourist destination, as well as the impact of the tourism products and services developed on tourists.

To carry out performance monitoring and evaluation, a series of careful and technical steps must be followed, including the definition of performance indicators, the selection of measurement tools, data analysis and decision making. based on the results.

The following is a summary of the steps that must be followed to carry out performance monitoring and evaluation in IoT-based coffee tourism:

Definition of performance indicators: Key performance indicators (KPIs) must be defined to measure the performance of IoT devices and sensors, as well as the impact of tourism products and services on tourists. Some examples of KPIs could be the number of visits to coffee plantations, the satisfaction rate of tourists, the response time of IoT devices, among others.

Selection of measurement tools: The appropriate measurement tools must be selected for each of the KPIs defined in the previous stage. These tools could include data monitoring and analysis software, tourist satisfaction surveys, among others.

Data analysis: Data collected through measurement tools should be analyzed to assess the performance of IoT devices and sensors, as well as the impact of tourism products and services on tourists. Areas of opportunity and strong points must be identified in order to make decisions that will improve the tourist experience.

Decision-making based on the results: The results obtained in the analysis of the data must be used to make decisions that allow improving the performance of IoT devices and sensors, as well as the development of new tourist products and services that offer unique experiences and memorable to tourists.

In conclusion, performance monitoring and evaluation is a critical stage in the implementation of IoT-based coffee tourism. Careful steps must be taken to ensure the measurement and analysis of the performance of IoT devices and sensors, as well as the impact of tourism products and services on tourists. Decision-making based on the results obtained will allow the

continuous improvement of the tourist experience and guarantee the success of the tourist destination.

In summary, the implementation of IoT-based coffee tourism involves the selection and installation of IoT devices and sensors, the integration of the data generated by them into a data management system, the development of personalized tourism services and products, and the evaluation solution performance constant.

1. SCOPE OF THE SECTION

In this tourist model is presents a model that incorporates an approach of a system for guarantee a tourism based on the coffee production chain, led by the QUECHUA indigenous community, in the department of Santander-COLOMBIA. From the perspective of the destination, the tourism has place in a series of systems integrated: tourists, companies, cluster, destinations and the broader social / economic / political system. To maximize the benefits of tourism, we propose the digital inclusion of the QUECHÚA indigenous community in technological tools such as THE INTERNET OF THINGS AND BLOCKCHAIN; each of these systems must perform key tasks that maximize the benefits of tourism and/or mitigate or reduce the costs of tourism. To have a performance optimum, each level of the system has to function of manner effective and lean on mutually. This model addresses the tasks and functions at each level of the tourism system required to achieve a tourism sustainable.

The destination is also an important part of the tourism system. As such, managers tourism should interact with other components of the tourism system to optimize benefits of clients of international origin: USA, European Union and Asians.

This model has been developed for be used by the **officials of tourism of the indigenous QUECHUA community.** A term generally accepted for the Offices of tourismes Destination Management Organizations or Organizations destination marketing organizations (DMOs). The people that work for these organizations they will be described as DMO managers, and they are community leaders. The report will also be designed for provide ideas practices for the planners to level national and others interested involved in the Development of tourism in QUECHUA

indigenous territory, in the department of Santander, COLOMBIA.

This section will first focus on a destination model for competitive destinations and sustainable. Then will explore the links with others system parts tourist.

2. TOURISM OF THE COFFEE IN CONTEXT: CONSIDERATIONS FOR HE DEVELOPMENT OF THEMODEL

2.1. Tourism in Colombia

The tourism is at the moment the export industry number one in Colombia, surpassing foreign exchange earnings from exports of traditional basic products (Medina, 2016). He tourism represents almost 6% of GDP in Colombia and supports, directly or indirectly, more than 1.87 million jobs (WTTC, 2015). While much of the development in recent years has taken place in Cartagena and Bogotá (Oates, 2014), the interior of the country remains largely without blow. The QUECHUA indigenous territory region in Colombia offers unique natural and cultural attractions.

The QUECHUA indigenous territory includes the El Tuparro and Sierra de la Macarena National Parks. In recent years it has There has been limited tourism in this region, but new developments are expected. tourism has been recognized as an engine for regional development in Colombia and can be organized to ensure that community members derive direct and economic social and economic benefits indirectly dedicated to the provision of tourist services. Projects have been shown to of ecotourism / agrotourism reduce the poverty rural and support he development economic inside of the indigenous

communities. It has been shown that tourism-oriented social enterprises, which take advantage the spirit local business for solve issues social, provide resources to reduce poverty, address health problems and increase access to education.

Without However, to ensure that tourism opportunities generate social/cultural benefits, sustainable environmental and economic benefits for municipalities and local communities, will require a planning and careful implementation and inclusive.

2.2. Development of the tourism in the QUECHUA indigenous territory

The development of tourism contributes to improving the quality of life of the people of the QUECHUA indigenous territory Colombian. The beginning and Models used for the QUECHUA indigenous territory He will base in these fields related, but will be customized to specific circumstances, not just within each specific destination inside of the region.

2.3. Considerations of the cycle of life of the destination

After many years of conflict, tourism in much of the QUECHUA indigenous territory is in the first stages of growth. He recognition of the needs specific of are areas newly open is fundamental for apply the beginning of tourism sustainable of manner significant and useful in the communities and business of destination.

Destinations in the early stages of development are characterized by a high need for investment. Destinations must invest in infrastructure to support the growing demand for services (mill & Morrison, 2012). The attractions natural that are winning popularity require an investment to ensure that visitors are managed appropriately as they increase, the traffics. To the same time, the sectors private will invest in products and services related with the tourism. Further there of the resources financial, to level of destination, this means educate to the leadership of the community in a series of activities required for guarantee the sustainability and the competitiveness to extent that the destination keep it up in the cycle life.

It is important to note that the biggest sustainability challenge for many small companies is to develop a business profitable.

The criteria and models of sustainable tourism will be applied in a way that recognizes the challenges of are new companies. A contribution important of this project be the implementation by stages of the criteria of sustainability.
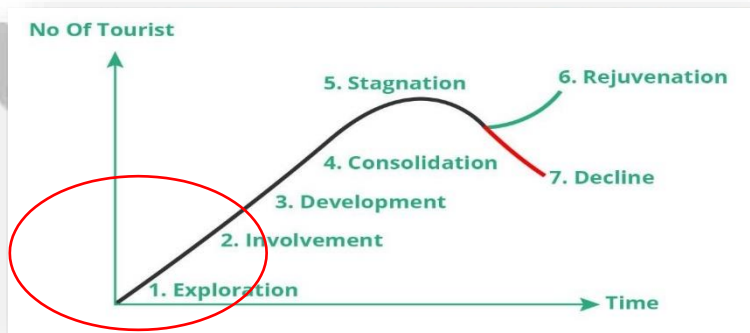
3. THE SUSTAINABILITY AND THE COMPETITIVENESS PROMOTE HE SUCCESS OF THE DESTINATION

The long-term value of tourism for the QUECHUA indigenous territory is determined both by its sustainability as for its competitiveness. These concepts are closely integrated. The principles of tourism sustainable assure that the benefits of the tourism the maximize and that the impacts negativeHE minimize.

The tourism sustainable is defined by the Organization world of the Tourism of the nations United as "tourism that has fully in account their impacts economic, social and environmental current and futures, attending the needs of the visitors, the industry, he half atmosphere and the host communities". Sustainable tourism is not a "niche of the sector tourism"; the principles of tourism sustainable they can apply to all the guys of tourism, including the ecotourism, he agrotourism and even mass tourism. The principles of sustainable tourism recognize that the Tourism must balance economic, social and environmental issues in order to maximize benefits.benefits for target communities. This project will use those criteria and adapt them to the specific needs of the destination specific communities and companies The GSTC criteria, bothfor Destinations as for the industry, are organized to it long of 4 dimensions:

The Actions of tourism sustainable contribute to experiences tourist of high quality,offers differentiated and greater yields. The competitiveness ensures that he destination and the companies that it's made of continue attracting visitors and boosting Actions of sustainability.

The destination government that fosters sustainability and promotes competitiveness maximizes the benefits of tourism for the destination community. One of the central elements of tourism sustainable cash is the ability of attract and satisfy markets select. Without Travelers, the benefits of sustainable tourism cannot be achieved. Although it is clear that competitiveness in the market contributes to the tourism sustainable, He has to have in account that he tourism sustainable contributes to the competitiveness. The beginning of the tourism sustainable they lead to an experience authentic and of quality desired by many Travelers in the present.

3.1. Sustainability of the destination

A. Demonstrate a management sustainable effective

B. Maximize economic benefits to the host community and minimize impacts negatives

C. maximize the benefits for the communities, the visitors and the culture; minimize the impacts negatives

D. Maximize benefits to the environment and minimize negative impacts.Colombia He's a leader in the implementation of practices of tourism sustainable.

3.2. competitiveness of the destination

He Forum Economic world (PEF) define the competitiveness as "the set of institutions, policies and factors that determine the level of productivity" (Can, 2016). TO level national, the Tourism competitiveness is measured using 4 themes,

including enabling environment, tourism policies, travel and tourism and enabling conditions, infrastructure and natural and cultural resources. The competitiveness of subnational regions, including departments and municipalities, can derived from this index. It is important to note that members of the tourism system, including officers of tourism, although No are directly responsible of some factors of competitiveness,have a big role in the promotion of the development of these factors.
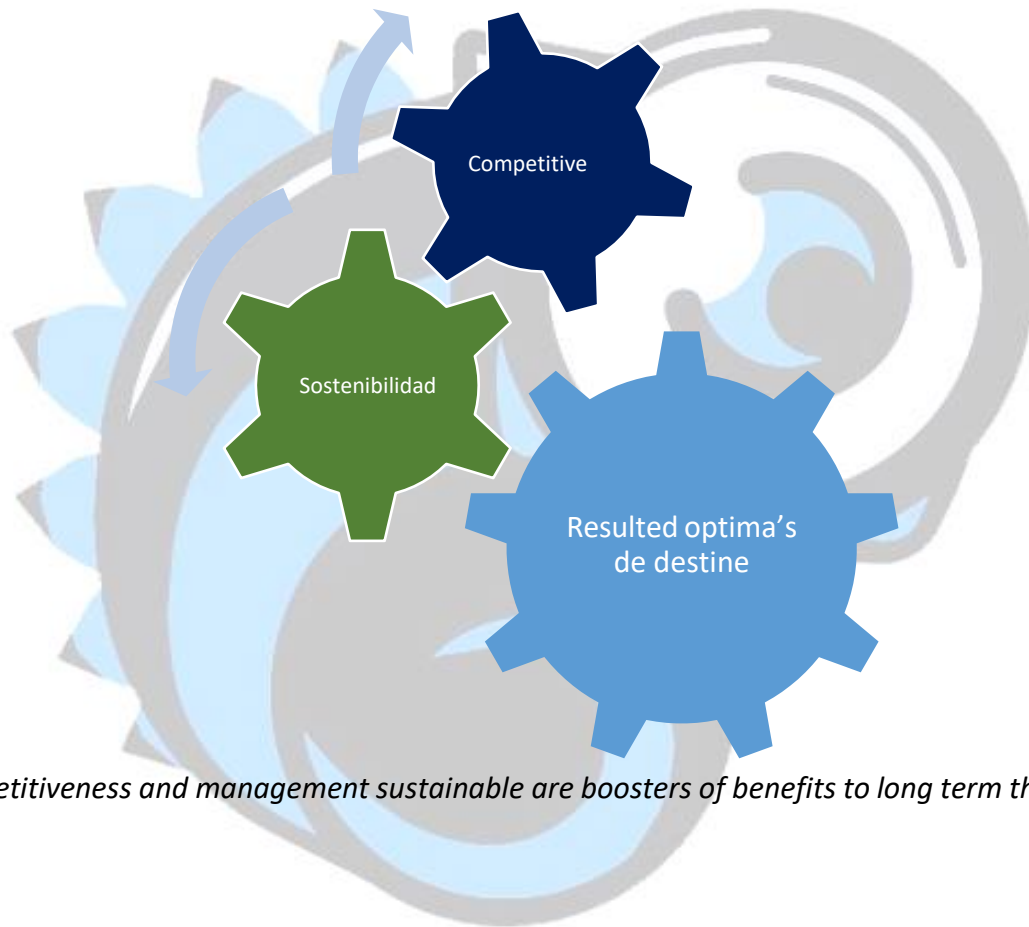

Figure 2: competitiveness and management sustainable are boosters of benefits to long term that HEsupports mutually

4. THE SYSTEM OF DESTINATION

Since tourism as a whole can be considered a system, the destination is a system of actors that work together to provide experiences to visitors. In the center of experience of the visitor are the attractions that motivate the visits. Are attractions they can include natural and cultural heritage attractions, events and festivals and commercial attractions. Also, compañies and other entities directly are essential for the delivery of tourist experiences involved in the benefit of services to the visitors.

Is fundamental point that he system of destination HE extends further there of those organizations that identify themselves as part of the tourism system. The providers of infrastructure and others services are fundamental for the operation effective of the destination. Saying that effective tourism is an "all-of-government" activity. As such, entities directly involved with tourism must engage with leaders and organizations in the "Macro destination".

Also are fundamental for the functioning of the system of destination the providers ofcompanies directly related to tourism. The inclusion of these indirect providers is fundamental for achieve benefits economic optimal: reduce the losses economic of the system and enlarge the opportunities of employment.

To the refer to the nature of the systems of the Destinations, is important highlight the characteristics of the Destinations. Some characteristics of the System of destination:

• The Destinations are formed by a wide spectrum of actors that act of shape independent.

• Some actors in the tourism system may have responsibility for aspects of the system function, but this is not necessarily the case. For example, the organization of Destination Marketing Officer (DMO) may be responsible for marketing at the destination level.However, these entities rarely have the ability to "command or control" others. members of the system of destination.

• Unlike companies, where there is a chain of command, destinations are networks. Nobodythis to post of the system of destination.

• The systems of destination (and the cluster inside of these systems) are fluids. HE car will organizeis according perceive the needs and change to extent that they change the conditions.

• Effective maintenance of destination cluster and systems within the destination requires attention to the process group and skills in collaboration and cooperation. The resources HE must apply both to the functioning group as to achievement of tasks.
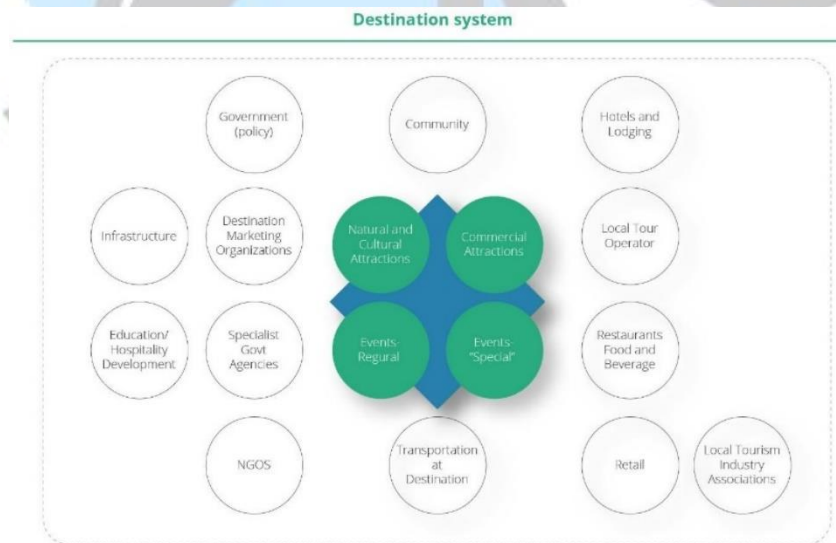

Figure 3: System of destination

4.1. Actors of high impact on the system of destiny

Several actors with the system have a great potential for affect he functioning of the system.Strategies that focus on these stakeholders will have the greatest potential to create results. positive for the system. The actors of high impact include:

• organizations governmental and of destination to level macro

• organizations of marketing of destination (BMD)

• NGO and Associations

• cluster of tourism (groups of products directed to markets specific)

• New product / business: development business tourist

4.2.   hierarchies of the system of destination

The target system can be thought of as a series of integrated systems or subsystems.While that each
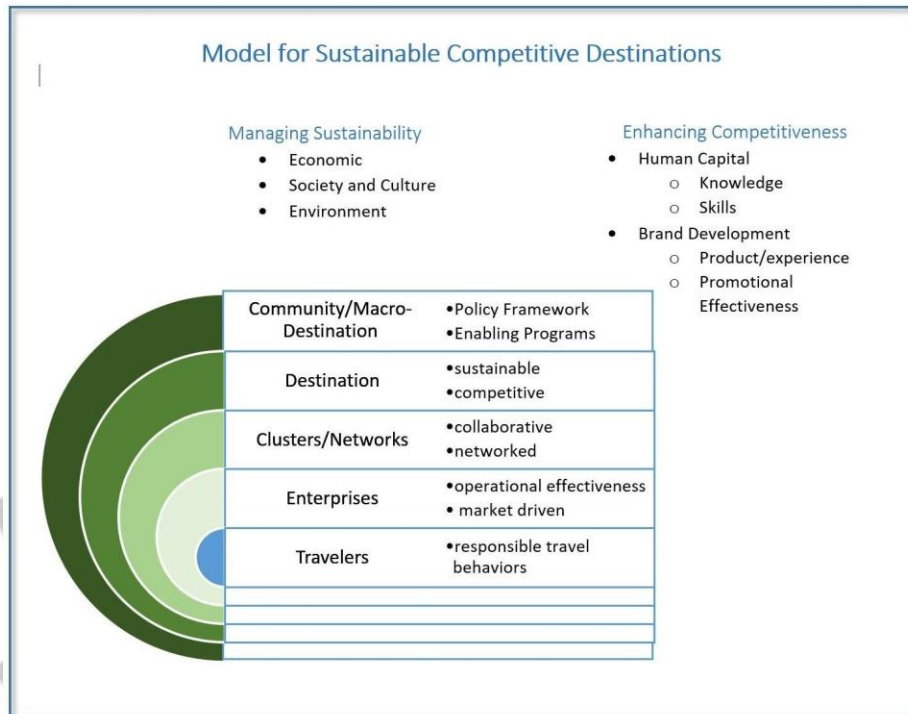

Figure 4: Model for Destinations sustainable and competitive

subsystem can Act of shape independent - he performance of each

subsystem bound to the system in his set. The results optimal of the tourism HE they will achieve wheneach level of the system work towards the goals common.

To achieve the best results, systems should be organized to achieve a set task that maximize the net results of the triple bottom line. To achieve these tasks, the system must function effectively and therefore requires a set of skills or capabilities. This model will address the tasks clue and the skills required for achieve a tourismsustainable.

The success of tourism in the QUECHUA indigenous territory will determine the competitiveness and sustainability of the system in each level of system.

These factors HE they can represent in the

following model for Destinations sustainable and Competitive.

5. FACTORS OF COMMUNITY / MACRO-DESTINATION

He tourism HE carries to cape inside of the system social / political further broad. factors of sustainability and competitiveness are determined by the organizations further there of the tourist centers - organizations related.

5.1. factors competitive

At the national level, the competitiveness of tourism is determined on a number of factors including the attractive of the destination and the infrastructure. He Forum Economic world (Schwab, snubbed, elder and blanked, 2015) identifies the components of the competitiveness of destination including:

- (Tourism) Around auspicious
o Atmosphere of business
o Security and protection
o Health and hygiene
o Resources humans and markets labor
o Preparation for the TIC
- Policy of T & T and conditions enablers
o Periodization of travel and tourism
o Opening international
o Competence of prices
o Sustainability of the half atmosphere

- Infrastructure
o Transport aerial
o Infrastructure Land and port
o Infrastructure of services of tourism
- Resources natural and cultural
o Resources natural
o Resources cultural
o Trips of business

Colombia is at the moment (2015) ranked 68th of 141 countries. occupies he level further low in "infrastructure" and although this ranking is a national result, it is reasonable to recognize that the development of the infrastructure this lagging in the QUECHUA indigenous territory. He development of the tourism in the QUECHUA indigenous territory will be very Influenced by others plans for the region, included the infrastructure and he development.

The strategies for improve the competitiveness of the destination in the QUECHUA indigenous territory they can include:

- Policies and support for tourism: Policies that recognize the importance of tourism for the economy are essential for sustained development. support, including support financial, of the leader's community clue is fundamental. The OGD must guarantee that the

government leaders learn about tourism and its contribution to well-being and development economic of the community.
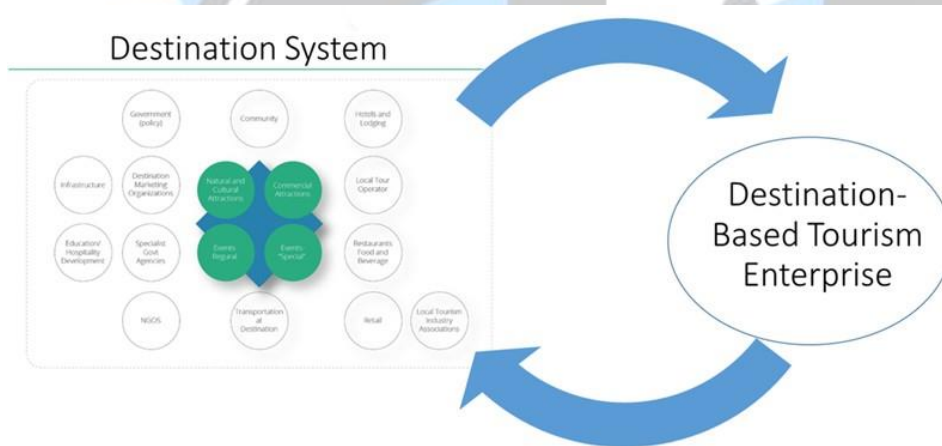- Infrastructure. He development of the infrastructure, included the TIC and he transport, is essential for the development of the destination. Tourism is affected by the problems of infrastructure in a variety of forms = for example, signage is an element important of the experience of the visitor. The BMD also they can

participate actively in the promotion of an elderly ability aerial for his destination.

- Education and development of capabilities: he development of the force of job is an action criticism for ensure that the benefits of the tourism arrive to the community local. Are strategies being critical to ensuring that tourism offers more than entry-level positions and operations of pay low. The training and the creation of capabilities should toast support for the development of stalls managerial in tourism, so as support for activities directed business to tourism.

5.2. *factors of sustainability*

He tourism sustainable also HE goes affected

and cultural

- Employment and anti-exploitation
- Accessibility and Inclusion
- Rights of property.

The programs community that facilitates the development sustainable of the tourism include:

- Programs environmental (reduction of waste of water, recycling, conservation of energy)
- Programs of development labor and education
- Surveillance of the tourism
- Programs cultural and patrimonial

by factors in the system further broad of community / Macro destination. The factors that contribute to the effectiveness of the tourism sustainable include a frame of policies that enable sustainable tourism and community-based programs that support the activities of tourism sustainable.

The frame of policies that supports he development of the tourism sustainable includes legislation /policies I regulations that guarantee:

- Construction and town planning
- Security and protection
- Atmosphere
- Protection of assets environmental

6. THE FACTORS OF THE SYSTEM OF DESTINATION

6.1. *Relations between Destinations and companies*

Target systems should be considered both as a whole and as a portfolio of company's tourist. The sustainability of a destination is ultimately determined by the efforts collectives of each one of the members of the system. Colombia recognizes the need to manage Destinations so much to level of system as of product. By example, Colombia has one of the programs of sustainability further progressive that require a wide spectrum of products tourist for assess their sustainability practices. In addition to this product-level focus on sustainability, Colombia this throwing a program of certification of destiny.

Figure 5: Destination of support mutual - interconnectivity business

The tourism HE carries to cape in the Destinations and the ability of the Destinations for attract to the visitors and managing the tourism process sustainably is critical to achieving long-term benefits. term.

6.2. *Destination's tourist competitive*

He destination can increase his competitiveness to the improve a set of assets with the system of destination. These assets are factors important of production for him tourism and include:

- Human resources: the ability of the destination's people to meet the growing needs of

Is important remember that the competitiveness of the destination this determined, to the less until TRUE spot, by the competitiveness of the organizations within of the destination.

The ability of these independent operators to achieve high levels of performance and work together to deliver superior results for the entire destination - It is an ideal that each destination should strive to achieve. Competitive and sustainable destination teams lead to destinations competitive and sustainable.

the tourism in the destination.
- Physical and cultural assets: the tangible and intangible environmental and cultural assets of the region.
- Knowledge assets: Knowledge assets represent the actionable information that resides in the destination. This includes not only skills and abilities, but knowledge based in the client (relationships of the chain of supply, contacts of sales).
- Brand / Image: The reputation of the region as destination tourist. He development of the perceptions of the region is the result so much of the activity promotional (advertising, relations public, marketing based in Web, sales) as of the experience of the user in the destination. The experience of the user this determined by the creation of places of destination and the development of products to level business.
- Capital / Resources financial. The little and medians companies of tourism have important challenges for to access to the resources financial for the growth and he development. Progressive destinations will seek funding for these organizations. The public / Private companies can be significant catalysts for growth and support the development of the

tourism.

The Destinations they can develop these assets and improve his competitiveness developing strategies designed to build so much the brand of destination as the grid either he equipment of destination.

The Destinations recognize that the construction of the brand of destination includes Not only he positioning of the destination through promotional activities, such as advertising and relationships public, but also the management of the user experience in the destination. Using this

approach for brand building, DMO management must focus on product development, both of the destination in his set as in the development of products of support of their products constituents.

Destinations also increase their competitiveness by developing the capacity of the destination. This includes the adoption of knowledge management strategies to ensure that eachteam member has the best information to act effectively. It also requires systems of training and training for raise the level of ability of the members of the level of destinationto satisfy the needs of his market.

destination Brand building Strategies

Product / Experience Development Strategy

Promotion Strategy

Human Capital Development Strategy

Knowledge Development Strategy
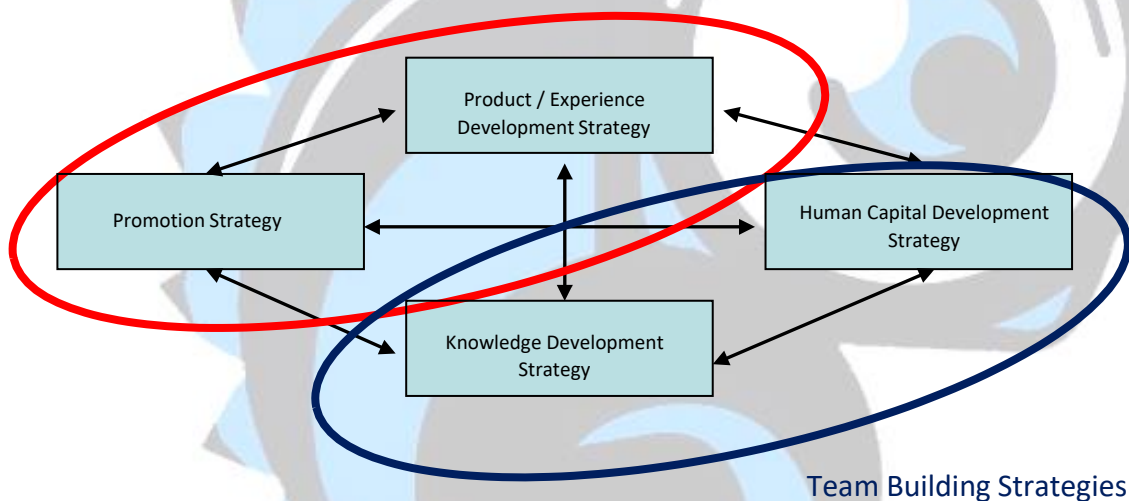
Team Building Strategies

Figure 6: Strategies for Destinations competitive

6.3. *Destinations of tourism sustainable*

As we pointed previously, many of the criteria sustainable, so much to level of destination asto level business, have place in the course of the operations every day. The plans of commercialization are produced, companies recycle, etc. While these actions are beneficial, they are not they represent a holistic management approach to achieve specific sustainability results. The management sustainable of the tourism requires that the functions basic of the management (planning, organization, leadership and control) meet the criteria necessary to achieve the

objectives of the tourism sustainable.

The management sustainable of the tourism requires he domain of some concepts of management important:

•   Management of the change: the implementation of changes inside of the systems, already be that changethe business practices or the behavior staff, is difficult.

•   Management of the system: As we pointed, the systems tourist is complex and require the actionof a wide variety of actors, some of whom do not even consider themselves in the tourism. The systems

tourist No have a hierarchy in the that a person or organization is in control, but they rely on collaboration and cooperation. The Traditional strategic planning models often fail as they assume "commandand check": to I often know require new models of management in systems.

• Strategic management: the management of sustainable tourism is a strategic activity; it requires acommitment to long term. Ensure that all the actors in the process keep the motivation and he commitment to through of the process requires actions deliberate to long term.

• Continuous Improvement or "Kaizen": Like the quality movement of the 1980s, the Sustainable tourism management is based on the principle of "continuous improvement". in the measure that When targets are met, new targets are set to further improve performance. As such, the management of tourism sustainable has to considered a process, No a project.

The criteria of tourism sustainable describe a set of activities that the Destinations mustcarry out. These actions include:

• Planning for growth and development of Destinations

• monitoring of criteria of sustainability and performance of the system

• Develop a Policy and a frame regulatory

for support the goals of sustainability

• Marketing of destination

• Development of infrastructure and services governmental for increase the competitiveness

• Manage the benefits of the assets of destination: cultural and natural

plans of "management" of destination - The top practices in the recommendations of management of Destinations, included the criteria of GSTC, require that the Destinations have a plan strategic. GSTC provides a set of specific elements that the Destinations should to plan:

o Promotion and marketing
o seasonality
o Change climate
• Adaptation
• Mitigation of monitoring of GHG
o standards of sustainability
o Driving of crisis and emergencies

Yeah, good the plans as these usually be coordinated by BMD, are the job of a broad rangeof parts interested in the system of destination.

Workforce development and capacity building - Tourism development requires workforce development strategies to ensure that the necessary workers are possess the skills and he knowledge necessary for leverage the new opportunities. Are skills range from fundamental hospitality skills suitable for front desk workers entry level to higher level management skills. Guarantee a full range of educational and training opportunities is important to ensure that workers locals can access the functions High better level paid inside of the industry.

Supply Chain Development - The economic benefits of tourism extend beyond of money spent directly with hotels, attractions and restaurants. Beyond

income direct generated by the tourism, the benefits indirect and induced HE create to extent that he money of the tourism HE moves to through of the economies local. He development of strategies that increase the

amount of money that remains in the local economy, encouraging local production for the tourism, can improve substantially the impacts positive of the tourism. He analysis of the chain of supply and value chain analysis will be carried out to ensure that each destination maximize the benefits potentials. The details of this approach HE they can find in the discussion cluster and incubation business.

7. CLUSTER OF DESTINATION

As the destinations are considered systems, also within the destinations it is common for subgroups or clusters. Michael Porter, a leading strategist, popularized the paper of clusters in developing competitive industrial sectors (Porter, 1990). In tourism, the cluster have become a driving force in the development of the destination. to the other side of the QUECHUA indigenous territory, Mince and DNO are working with groups for to stimulate he development of the tourism.

The clusters of destination are a cluster of people that represent to the main interested in the destination, included the hoteliers, the operator's tourist, the management of the attractions, guides and others, all working to develop the destination. These operators recognize that his action collective is further effective and generate benefits No only for the destination as an all, but also for their business. Is important remember that the cluster are structures loose with membership voluntary.

As networks critics in the development of Destinations, HE has to manage he maintenance and he support continuum for cluster governance. The development of skills in networking and collaboration techniques for strategy building in poorly aligned networks is a critical success factor for the success long term of these groups.

8. THE COMPANIES TOURIST AND HIS MANAGEMENT

8.1. Companies of Tourism Competitive

The competitiveness commercial HE can define as the ability of a company for provide products as efficiently and effectively as the competition. The companies of tourism in the QUECHUA indigenous territory strive to ensure that they are competitive with companies in their region and around the world. To achieve competitiveness, companies in the QUECHUA indigenous territory must focus both in business development and in marketing effectiveness, particularly in the development and promotion of products. HE recommends he development of capabilities, including the development of tools, programs of training and support of coaching for little companies, to help to These companies to reach the competitiveness in the market.
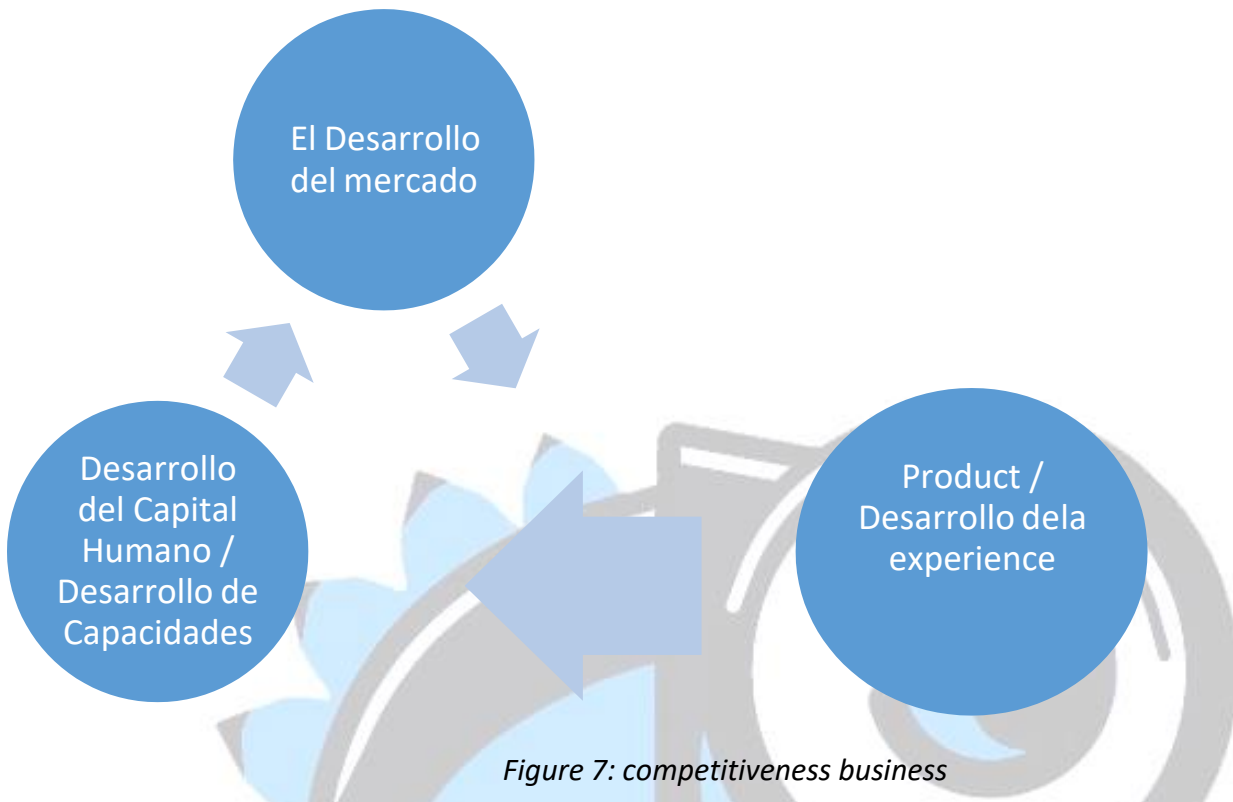
Figure 7: competitiveness business

As the demand for tourism within the QUECHUA indigenous territory increases, the growth of the industry of the tourism in this region be driven by the companies that they answer to the demand with new product offerings. The development of tourism in the QUECHUA indigenous territory will incorporate a series of Models of business, including micro / little companies, companies of tourism of base community and socially entrepreneurial companies. Each of these business models must be incorporated into growth planning in the region. With the tourist system of the QUECHUA indigenous territory, the flexibility to accommodate a variety of business models will ensure that the benefits of tourism HE distribute for all the community. This is will discuss with more detail in the section 3.2.4.2

The "incubation" of micro / little / medians companies in QUECHUA indigenous territory is a task important. The provision of training / development of capabilities, tutorships, access to the market and (micro) financing will support the development of these business.

8.2.   *Companies of tourism sustainable*

The performance of the system is the sum of the activities of each of the actors within the system. system. So, yeah good is useful have a commitment of destination with the sustainability and the competitiveness, is important that each company also undertake Actions designed for maximize the benefits of tourism, for themselves and for the destination. The principles of the World Council of Sustainable Tourism (GSTC) to support the industry and reinforce destination criteria. These criteria are organized:

• Demonstrate a management sustainable effective

• maximize the benefits economic for the community of reception and minimize the impacts negatives

• maximize the benefits for the communities, the visitors and the culture; minimize the impacts negatives

- maximize the benefits for him half atmosphere and minimize the impacts negatives

These general principles are incorporated into industry standards for sustainability. implemented by Colombia and are required for inclusion in the national registry of products tourist.

Management for the sustainability - The management sustainable of the tourism requires that the company's tourist undertake a set of activities related with the sustainability and that manage actively his performance continuous. The criteria of GSTC for the areas of action include the management of the following:

- Implementation of a System of Management of the Sustainability
- Compliance legal with laws / policies established
- Reports and communication to the sustainability to the main interested, including the staff
- Commitment of the staff in the process of sustainability
- Management keeps going of the experience of the customer
- Promotion accurate
- Maintenance of Buildings and Infrastructure for achieve with the criteria of sustainability
- Adoption keeps going of practices and materials sustainable
- Guarantee the access of the population local to the asset's tourist
- Recognition of land, water and rights of property Commitment with the destination further big

Economic benefits - Tourism businesses, including hotels and attractions, have the ability to use their purchasing power and supply chain decisions to support the tourism sustainable.

- Medium community
- Employment local
- Local shopping
- Entrepreneurs local

The company's tourist also should to model the responsibility social to the:

- Removing exploitation and he harassment
- Provide equality of opportunities in the force of job
- Provide job decent

The criteria also encourage tourism companies to show their corporate responsibility by through of the service community.

The organizations tourist should work for guarantee that their operations No hinder the media of local life.

Cultural - The company's tourist also play a paper important in the preservation of the culture / heritage local. The criteria GSTC require:

- Adoption of top practices for interactions cultural with cultures natives and sites culturally sensitive
- Contribute to protect he heritage cultural
- Introduce culture and inheritance, so much traditional as contemporary, of manner authentic.
- Ensure that historical/archaeological artifacts are not sold, unless you allow it the law.

Environment - Environmental actions include energy, water and waste management and the protection of local natural spaces/ecosystems. These criteria are organized by GSTC of the next manner:

conserving resources

o   Buys preferably environmental
o   Buys efficient
o   energy conservationreduces the pollution
o   Reduction of GHG
o   Transport
o   waters residuals
o   Residue solid
o   substances harmful
o   minimizes the pollution

conserving the biodiversity, the ecosystems and the landscapes. The Actions specific include:

o   Conservation of the Biodiversity
o   Species invasive
o   visits to sites natural
o   interactions with the fauna
o   Welfare of animals
o   Harvest and trade of life wild

Improvement keeps going - He government Colombian, to through of the Mince, established the guidelines for the operations of tourism sustainable. These standards must consider tools to help

the companies to improve their results of sustainability to through of the commitment with the improvementkeep going.

9.   DESTINATIONS SUSTAINABLE AND HE SYSTEM OF TOURISM

The tourism system enables the successful delivery of tourism experiences, many based on systems of destination, to the consumers (Travelers). Further there of the destination, the intermediaries connect to travelers with information and the ability to purchase travel experiences. Many of these Intermediaries create significant value by aggregating (bundling) products that attract to the consumers. The providers of trips, including the company's aerial and the operator's tourist, provide services critics of Destinations.

From a DMO perspective, the role of these members of the tourism system is critical. With the end of achieve with the goals of sustainability, the Destinations must head down to the intermediaries thatsupport the goals of destination.
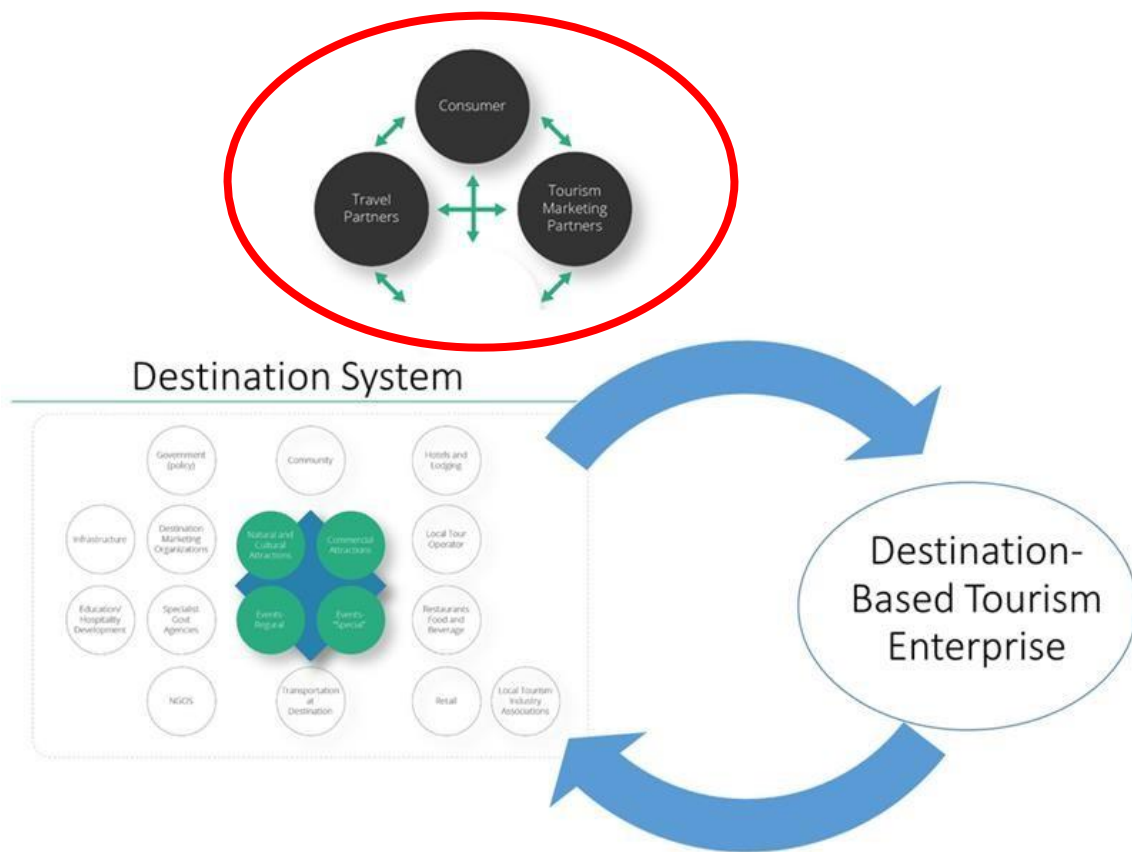
Figure 8: System of Tourism: Further there of the Destination

9.1. The Travelers and he market aim

Colombian domestic travel market - The Colombian domestic market has experienced a growth significant in the last years - each time elderly of 13,235 million of visitors in 2010 to 20,106 million visitors in 2016 (OECD). It is expected to continue growing at high rates. Although there is evidence of "repressed" demand, effective marketing to Colombians of the QUECHUA indigenous territory will be critical. Profiling the Colombian market for travel to the QUECHUA indigenous territory is a critical step in the development of programs of effective marketing and efficient for the region.

Visitors International Markets - The United States is the largest market for Colombia source for international visitors and Colombia is attracting attention as an emerging international market. Anecdotal evidence suggests that European markets -

on all Spain and Germany - they can be important markets international of the region. The regions QUECHUA indigenous territory should take advantage of this interest among travelers who are "first users" of new Destinations.

Responsible Travelers - Competitive, sustainable destinations must identify customers who will support the goals of destination. The markets of

destination must respect the values cultural of the destination and be able to contribute to the economic objectives of the destination. target development must take into account not only the target stakeholders, but the needs of the markets of destination.

To the same time, the Destinations must be proactive in guide to the tourists in the values of destination and he behavior appropriate. The markets that show his commitment with the tourism responsible must be identified and targeted by destinations that seek to maximize profits of the tourism.

The members of the system of destination to through of the QUECHUA indigenous territory expressed the worry of that visitors should be educated to respect local values, including the preservation of spaces natural and he I respect to the culture local.

9.2. The intermediaries of trips

The development of the QUECHUA indigenous territory will require the development of a network of travel intermediaries that support actively he growth of the region. The grid of distribution of trips is complex. Companies Tourism companies often use a multi-channel approach that includes both direct purchase (usually direct purchase through the Internet) and indirect models. Distribution channels can include agencies of trips on-line (OTA). The importance of TripAdvisor to the that many of the products of the QUECHUA indigenous territory is a test

of the can of this channel.

In the Colombian domestic market, traditional distribution channels include brokers travel and wholesale tour operators /. The members of the distribution network are currently no are familiar with the products and the Destinations of the QUECHUA indigenous territory. Even when he product this

available, product training will be required to ensure effective realization of this niche market. destination.

Internationally, tour operators are in the early stages of building networks of distribution. operators of the specialty, as guides fishing sports, have the enough international distribution to meet current capacity levels. In terms further generals, the operator's tourist individual / companies' wholesalers they have had hits early in the development of relationships. International sales calls, participation in conferences and familiarization of international wholesalers to the regions of the QUECHUA indigenous territory, have contributed to the early development of new international business opportunities. The chore of the partners of the channel of distribution is a choice and tourist strategic operators of the region will have that heading down to partners of distribution international in markets specific. He development of these relationships is a long-term process based on mutual trust and will require strategies deliberate for guarantee the best results.

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