An Associative Ecotourism Model Aimed at Optimizing Resources for Tourism Chain SMEs in the Highland Communities of the Peruvian Andes

Oscar Galvez-Acevedo, Jose Martinez-Castañon, Mercedes Cano-Lazarte, and Carlos Raymundo-Ibanez

Abstract—**Many of the tourist attractions, indigenous communities, and cultural festivities of Castrovirreyna are not properly exploited by local businesses and government entities. Consequently, the number of tourist arrivals is less than that in other similar locations. Unfortunately, this approach is degrading some tourist attractions and leading to the loss of inhabitants' cultural identity and the cultural and landscape heritage of the small town. Opportunities to diversify and improve the average local family income, which is approximately 100 USD, are also being overlooked. Within this context, this paper proposes developing a culture of entrepreneurship and innovation for local micro and small businesses and government entities through the implementation of an associative ecotourism model. This may steer agent resources toward the creation of innovative products and services with a sustainable approach based on compliance with three sustainable development goals. This study focuses on the Castrovirreyna circuit, an area that comprises the Ticrapo, Castrovirreyna, and Santa Ana districts in the province of Castrovirreyna in Huancavelica, Peru.**

Index Terms—**Ecotourism, sustainability, entrepreneurship, high Andean, micro and small businesses.**

I. INTRODUCTION

Since 2012, domestic tourism has seen a linear rise throughout most of Peru. A notable exception is Huancavelica, although this region manifests a clear potential for the development of ecotourism, experiential travel, and recreational tourism. For example, the Castrovirreyna province is located at an altitude of 3,950 meters above sea level. Despite having three prime attractions recognized by the Ministry of Foreign Trade and Tourism (MINCETUR), in addition to other unexploited attractions, and being traversed by two economic corridors transferring an average of 500 people per day, this region reports only 300 tourist arrivals. However, other communities with the same context or in worse conditions report higher figures.

Sustainable models for the development of multi-stakeholder products in the Austrian mountain ranges represent a solution for the proper development of synergies within the tourism sector by combining trends such as mountain biking with conflict management among hunters, hikers, and property owners to engage all stakeholders in the development of the region. Conversely, studies focused on Cuzco in Peru, the area with the highest rate of foreign

visitors, introduce us to the dynamics of people in extreme poverty capitalizing on tourism and their relationship with local institutions. However, few studies have addressed the development of tourism management models or tourism-related issues in obscure rural Andean communities.

According to the "Evolution of Monetary Poverty 2007–2016" report from the National Peruvian Institute of Statistics (INEI, 2016), Huancavelica is one of the poorest regions in the country. Castrovirreyna, in particular, reports a monthly family income of 100 USD on average, a literacy rate of just 18.9% in people aged over 15, a poverty rate of 40.8%, a chronic malnutrition rate of 59.8% in children aged 0−5 years, and 62 unemployed people in a population of 3,428. Nonetheless, since Castrovirreyna was directly hit by a strong earthquake in 2007, the local, regional, and national governments as well as several international cooperation agencies have made efforts to reduce poverty in the area. One such effort was led by the Italian-Peruvian Fund and fostered the creation of several local businesses managed by the provincial municipality, such as a city-run inn, a bakery, and a crafts workshop. Nevertheless, even after investments were made, the exploitation of these businesses has been extremely precarious.

To reduce poverty rates while endorsing environmental protection, this study seeks to develop an ecotourism management model that may support sustainable tourism in rural highland communities in the Peruvian Andes.

II. STATE OF THE ART

A. Tourism Value Chain Models in Mountainous Regions

The literature reviewed establishes a clear rationale for the typology presented. For example, [1]-[5] acknowledged travel companies (travel deal websites), tour operators, transport companies (distribution), and service providers as essential elements of the tourism value chain within the rural context, with efforts focused on assessing the situation. In addition, [1]-[4] establish the development of authentic tourism products based on the leveraging of the individual identity of each SME and the mountain context itself as final dependent variables or management objectives. This is based on the management of the tourism value chain and its political actors, which were validated by obtaining a high degree of correlation with the positive development of the other independent variables. Nevertheless, the tourism value chain and all other value chains indicate gaps pertaining to knowledge, infrastructure, policy, resource interpretation, and culture [1], [3] and [4]. Herein, the market approach

serves as a common denominator for these ventures, and the development of this component is another key variable. These businesses can only remain competitive if they optimize and steer their resources based on trends presented by existing and potential users. Further, including other items to the value chain is essential for guaranteeing the maximum use of resources. For instance, different authors suggest incorporating elements from agricultural, livestock, and health (natural and ritual medicine) chains as a strategy, since many of these elements are already part of the daily life of tourists via the consumption of the related products (dairy products, natural and organic medicine, etc.) [2], [4]. The development of components such as image and quality directly result in user satisfaction by conceptualizing unique and authentic products linked to exotic concepts developed by the rural community, which ultimately leads to product loyalty [1], [5]. Destination logistics; the inherent rural characteristics of the mountain towns; the logistics of supply chains, product and service features; and their transit through businesses are primary approaches that derive from the correct positioning of the tourism product offered.

B. Ecotourism Models Supported by Tourism Value Chain Management in Mountainous Regions

The tourism potential of mountainous destinations mostly lies in their ecotourism resources (lakes, rivers, snow-capped mountains, and wildlife). Consequently, the approaches employed for preserving and developing social, environmental, and economic environments and the proper development of a technological environment without affecting the aforementioned environments are paramount within the contexts of these resources [6]-[10]. Although environmental conservation is relevant hereto, conservation fostered by active engagement (assessment, opinions, and perceptions) from actors, residents, stakeholders, and the government is a fundamental component of the ecological models reviewed [6]-[8]. However, sustainable protection must not constrain the development of "distinctive and unique" tourism proposals because innovation is born from a dichotomy between identity and protection. This is addressed by assessing the residents' identity, developing awareness, encouraging tourists to care for the places they visit, and managing innovation [6], [8]. User satisfaction focuses on the characteristics of the resources, products, and services offered and on how the community promotes tourism, thereby fostering human satisfaction and true intention to return. Finally, the singularity component of the destination does not seem to exert a significant impact or, at least, the expected influence in these studies [10].

C. Associative Models Supported by Tourism Value Chain in Mountainous Regions

In several rural areas with tourist attractions around the world, tourism is the main source of substantial income because of the disadvantageous conditions faced by such areas compared to urban areas in terms of centralization and resources. Therefore, entrepreneurs and small businesses must form alliances and organizations among themselves with the common objective of becoming more competitive

and generating greater revenue. In this sense, authors [11] and [12] describe leadership as the primary success factor for these associations. This value, together with communication and cooperation, is part of the abstract chain of competences that small businesses must deploy to remain sustainable and support their continuous development. From these models, leadership was considered a fundamental value for the model, since it is supported by other competences such as culture and cooperation, which are part of the social capital. Conversely, [13], unlike [11] and [12], complements these values with other factors to guarantee successful cooperation among micro businesses, such as shared location, the culture of associativity, and the context of competitiveness. These factors are considered general requirements as per the model presented by [13]. Based on the context, member cooperation was extracted from this model as a primary requirement. As expressed by [11] and [13], innovation is also an important factor in developing partnerships, as it allows for the realization of new ideas for future internal or external projects. These authors focus their research on social capital as the main influencing factor in micro-business associations. From these models, the formalization and culture created from social capital were considered. Unlike [11]-[13] does not use human factors and focuses more on the importance of the geographic resources already available for exploitation. For this, the author uses an associative model based on the location of tourism resources in contrast to the location of businesses and associations within the tourist circuit. Subsequently, from this model, we extracted the orientation toward sustainability exerted on natural, social, and cultural resources.

III. CONTRIBUTION

The model is rooted in the understanding of the tourism ecosystem in Andean Highland communities, wherein micro and small transportation companies, inns, and restaurants are present, refer to Fig. 1. Further, their association is set forth under the operation of three components: process approach, leadership, and sustainability approach. These components are aimed at developing formalization, improving service quality, and creating innovative products. In addition, the model has been significantly adapted to the specific characteristics of rural tourism in Andean communities, adding culture organization and leadership components, with the former being aimed toward changing the mindset and customs of the population and the latter oriented toward promoting and guaranteeing operation under these four components.

A. Ecotourism Sustainability

The sustainability components were divided into objectives, goals, and indicators, according to the research conducted by ecotourism authors on the rural and mountain tourism chain, which assigned value and importance to the sustainability component for exploitation through ecotourism. The purpose here is for the associative processes to meet the sustainability objectives through the goals and indicators set out in their tasks, activities, and projects.
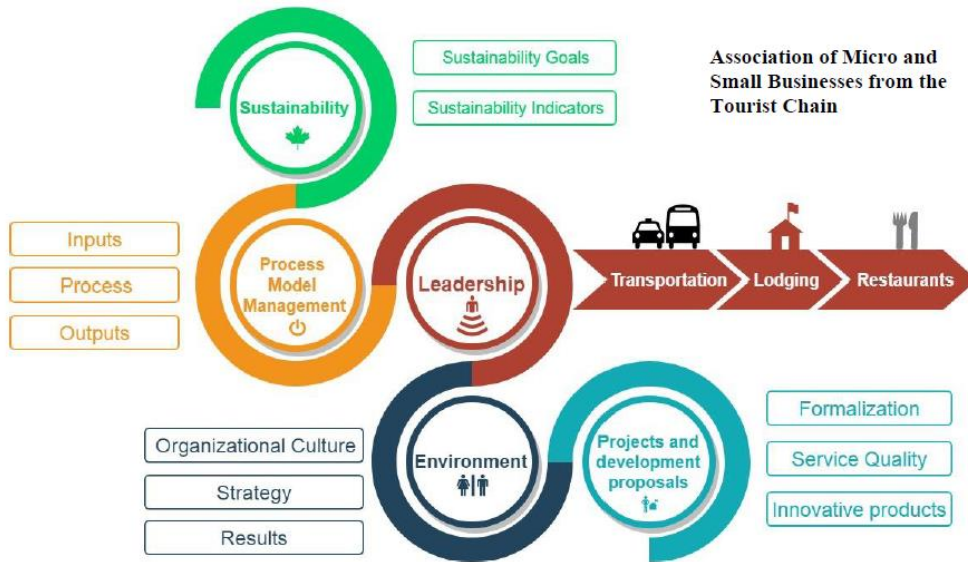
Fig. 1. Associative ecotourism model supported by the tourism value chains of rural highland communities in the peruvian andes.

The sustainability indicators will reflect the impact of associative projects and will be expressed as percentages or whole numbers. The economically active population (EAP) indicator yields 100%, which means that the entire population that can work is already working, and would indicate a population with EAP of the total population, whereas the number of green areas used through the associative project indicates that more green areas are being oriented toward ecotourism purposes.

1) Associative processes

The processes included in the model represent the distribution of association activities and tasks among members, including the president, secretary, treasurer, and general membership, refer to Fig. 2. This model was implemented based on current requirements and the needs of the context in which the association is located, which laid the foundation for determining the complexity and magnitude of the activities and flows to be carried out as part of the daily tasks.
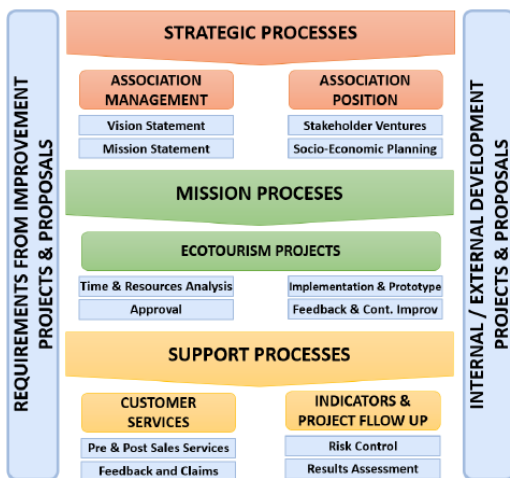

Fig. 2. Map of associative ecotourism processes.

IV. VALIDATION

The model proposed is validated through a case study implemented in Castrovirreyna, Huancavelica, which is located 3,900 meters above the sea level. This community reports an average of 100 visitors per day traversing the town through the Huancavelica-Ica economic corridor and 300 monthly tourist arrivals. In addition, the area features three ecotourism resources duly recognized by the MINCETUR and another five pending recognition. Still, the town offers no products or services focused on the exploitation of ecotourism. Only 50% of the micro and small businesses in the tourism chain are duly licensed and registered for operation. Furthermore, their services and products only score 2 on a 5-point customer satisfaction scale, as assessed by an initial survey of 350 people. In addition, an OCI-based organizational culture assessment for micro and small businesses determined that the area residents exhibited "defensive passive" and "aggressive defensive" behaviors, which hinder creativity, innovation, formalization, and the creation of quality products. Therefore, the promotion of tourism resources is non-existent.

After the case study is described, a pilot test is proposed to implement the model and validate three of the four components. This pilot test is deployed for six months with a budget of $543 and develops through the first three phases and tools, see Table I.

A. PHASE 1 - Assessment of Local Tourism

TABLE I: PHASE 1 - TOOLS AND ACHIEVEMENTS

Phase 1	
Tool	*Achievement*
Tourism Ecosystem	Enabling Conditions: Paved roads, telephone lines, and the Internet; three minimum ecotourism resources; and an average flow of 60 people per day
	Research Agents: The Castrovirreyna Technological Institute and UPC researchers
	Economic Agents: At least 20 micro and small businesses from the ecotourism value chain; 70% of these businesses were established out of necessity.
	Supplementary Agents: Regional Huancavelica Tourism Department, Provincial Municipality of Castrovirreyna, and the Farming Community of Castrovirreyna
Surveys	The service satisfaction level was 2 on a 5-point Likert scale.

Phase 1	
Tool	*Achievement*
Focus Group	The problems identified are the lack of knowledge for providing services and individual work.
Non-Participatory Observation	Business owners with extensive market acumen; however, it is not fully applied.
Scenario Assessment	We performed an evaluation of 560 similar districts. Their correlation among family income per capita, the number of arrivals, and the number of tourist resources recognized by the MINCETUR yielded an R of 0.75.
Problem Tree	Six key problems are identified.
Vester Matrix	The six key problems are weighted and classified as critical, active, or passive.

B. Results

The results from the first organizational culture survey to assess the current state of the local culture provide an average score of 1.23 to the assertive style, 3.35 to the passive, and 3.13 to the aggressive, refer to Fig. 3.
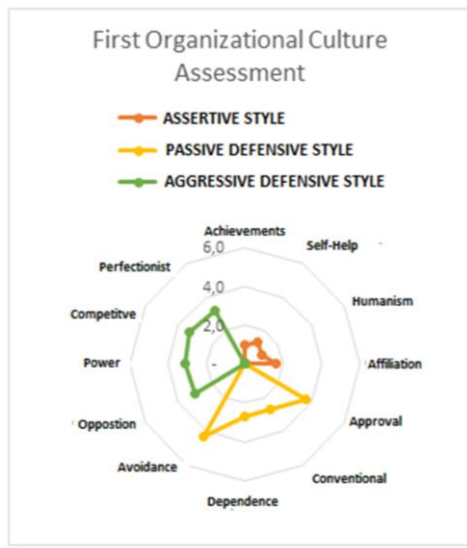

Fig. 3. Map of associative ecotourism processes.

This implies an increase in the constructive style. A six-month long implementation, a budget execution of 63%, five field visits, and two specialists leading the analysis lead to the following results.

In the four competences developed, both organizational culture and leadership denote a direct relationship with the proper association operations, refer to Fig. 4.

Fig. 4. Leader performance evaluation.

V. Conclusions

The 0.7-point increase of the constructive cultural style coupled with the reduction of the passive and aggressive styles derived from the deployment of the Organizational Culture Model is critical for paving the road for the implementation of new work methodologies.

The development of leadership skills based on "Communication" competences, with a score of 4.08, Leadership with a score of 3.64, Teamwork with a score of 3.82, and Accountability and Quality with 3.85, directly cemented the new approach to local organizational culture, in addition to the proper operation of the association, as well as the progressive implementation of new initiatives.

The 12 processes implemented under the process approach with their corresponding indicators were paramount for the collaborative development of the activities performed by the association. The collaboration and trust created through this approach exerted a direct impact on the development of a positive work environment and generates an additional number of members.

The two tourism products developed, as well as their tests, have already created 580 USD in revenue, with only the direct participation of three SMEs, five individuals, and two days of work, which, in turn, reinforces the new cultural approach.

Therefore, it can be concluded that the SMEs operating within the tourism value chain in this area approved of the model proposed and even offered a few observations, which were all taken into consideration. These small businesses are well-versed in knowing the tastes and preferences of their users; however, the businesses do not use this information to develop new products or improve the profitability of their ventures.

The shortage of models that address micro and small businesses, tourism, association, and high Andean variables makes this research a valuable tool for future models with a deeper and more extensive degree of research and for the development of a new tool to map the path to quality, competitiveness, increasing tourism, and fostering the progress of micro and small businesses in rural mountain towns.

Even when the establishment of general parameters for a pilot test was not possible, the model validates the creation of a "tourist association" as a minimum positive element for the sustainable development of ecotourism by micro and small businesses operating within the tourism value chain.

The proposed model generates a positive impact in this study and meets the proposed objectives for improving quality and promoting the formalization and development of innovative tourism-related products and services.

The sustainable development goals may be easily internalized by association members. In addition, special attention must be paid to these goals since ecotourism is their major tourist resource.

Author Contributions

Oscar Galvez-Acevedo and Jose Martinez-Castañon conducted the investigation, analyzed the data and formulated solution; Mercedes Cano-Lazarte and Carlos Raymundo-Ibanez contributed with research analysis and

solution approaches. All authors have approved the final version..

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