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Factors affecting the implementation of innovation strategies in a dynamic environment: case SMES of the tourism sector in Ecuador

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Factores que condicionan la implementación de estrategias de innovación en un entorno dinámico: caso PYMES del sector turístico en Ecuador.
Fatores que condicionam a implementação de estratégias de inovação em um ambiente dinâmico: pequeno caso do setor de turismo do Equador.

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The research analyzes the factors that affect the implementation of innovation strategies in SMEs in the tourism sector in Quito as a case study. The literature review and a field study based on the Ibero-American Model of Management Excellence and the Oslo Manual are carried out, using factor analysis and econometric models. The findings show the innovation in services that depends on the promotion and communication, resources and strategy; it also shows the innovation in processes that depends on promotion and marketing, market research, organization structure and marketing.

La investigación analiza los factores que condicionan la implementación de estrategias de innovación en las pymes del sector turístico considerando como caso de estudio la ciudad de Quito. Se realiza la revisión de la literatura y un estudio de campo basado en el Modelo Iberoamericano de Excelencia en la Gestión y el Manual de Oslo, utilizando el análisis factorial y modelos econométricos. Los hallazgos muestran la innovación en servicios que depende de la promoción y comunicación, recursos y estrategia; también muestra la innovación en procesos que depende de la promoción y comercialización, la investigación de mercados, estructura en la organización y marketing.

A pesquisa analisa os fatores que condicionam a implementação de estratégias de inovação nas PMEs do setor de turismo, considerando a cidade de Quito como um estudo de caso. A revisão da literatura e um estudo de campo baseado no Modelo Ibero-Americano de Excelência em Gestão e no Manual de Oslo são realizados, utilizando análise fatorial e modelos econométricos. Os resultados mostram a inovação em serviços que depende da promoção e comunicação, recursos e estratégia; Também mostra a inovação em processos que dependem de promoção e marketing, pesquisa de mercado, estrutura organizacional e marketing.

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1. Introduction

The large amount of existing literature leaves little doubt about the relevant role of innovation in the dynamics of economic growth and socioeconomic development (Chen, Yin, & Mei, 2018; Lundvall, 2016; Fagerberg, Martin & Andersen, 2013;). In general, innovation describes a sense of the evolution of humanity, explained in terms of creative capacity for invention as a source of technological, social and cultural change. Despite the vast literature available, it is difficult to provide a comprehensive definition of the term. Innovation is a multidimensional concept that includes a variety of meanings and definitions from the perspective of different disciplines (Chen et al., 2018; Edwards-Schachater & Wallace, 2017; Cunningham, 2013).

Innovation is not only "technological" it is also "social", "cultural", "institutional", "exclusive", "green", "open", "public" and "transformative" (Edwards-Schachter, 2018). According to Edwards-Schachter (2018), "invention", "novelty" and "change" describe the nature of innovation (Edwards-Schachter, 2018).

According to Geissdoerfer et al., (2018), companies may decide to establish innovation strategies for multiple reasons, such as improving efficiency, quality, or simply in order to develop new markets, in this context, it is useful to know the reasons that companies have to innovate (Geissdoerfer, Valdimirova, Van Fossen & Evans, 2018).

As for tourism, it is an activity that affects social, economic and cultural aspects, which is based on the movement of one or more individuals to destinations outside their place of residence, for personal or work reasons (OMT, 2018) .

In this environment, innovation processes are essential not only to generate, adapt and implement new ideas to solve problems, but also to create new advantages that allow companies and destinations to be much more competitive (Durán-Sánchez, et al., 2019).

Tourism represents income and economic development; therefore, it is relevant to know the level of innovation of tourism companies, particularly SMEs.

The article is structured as follows, first the introduction, follow by the theoretical framework, then the methodology and the discussion of the results. In the final part, the conclusions and bibliographical references are presented.

KEY WORDS
Strategies, Environment, Innovation, SMEs, Tourism

PALABRAS CLAVES
Estrategias, Entorno, Innovación, Pymes, Turismo

PALAVRAS-CHAVE
Estratégias, Meio Ambiente, Inovação, PMEs, Turismo

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2. Theoretical Basis

2.1. Innovation in Tourist Companies

The internal and external factors that drive innovation in tourism businesses are approached from three theoretical schools: 1) the Schumpeterian approach, where entrepreneurs represent an important contribution to dynamic innovation, 2) the technological push / demand-demand paradigm (they also recognize environmental factors such as changes in the market and political issues), and 3) from the Marshallian innovation systems or innovation group approach (Hjalager, A., 2010), Divisekera and Nguyen (2019), group them into "(i) collaboration, (ii) human capital, (iii) information technology, (iv) financing, (v) company-specific factors, and market-factor characteristics" (Divisekera and Nguyen, 2019).

Snyder et. al. (2016), argue that innovation in service companies must be observed from a broader perspective, where the launch of new and significantly improved goods or services, should create value to all involved. The context of the tourism sector is marked by some particularities, among them, the constant change of the profile of the tourist, who proves to be more experienced, hindering the possibility of providing different experiences that have an impact. In addition, tourists demand services that are managed in a sustainable way, in accordance with the economic, social and environmental dimensions, his responsibility with the environment (Civre & Gomezlj, 2015). Bogodistov et al. (2017), affirm that the high degree of turbulence and dynamic changes in the tourism market encourages the ability to adopt strategies to improve the performance of organizations (Bogodistov et al. 2017).

Additionally, the dimensions of innovation capacity in the sector depend positively on the organizational structure, human capital and collaboration networks. In the first one, aspects of the strategic goals, work environment and leadership of the company to innovate are involved (Corona & Zárraga, 2014; Corona, Zárraga & Ruíz 2015; Eriksen, 2015; Villegas et al., 2016). On the other hand, human capital conceives a set of intangible assets (knowledge), as well as the organization's willingness to facilitate the activities and processes of the development of new ideas, especially those coming from staff (Nieves & Segarra, 2015; Lee et al., 2016; Zontek, 2016).

Innovations that point to organizational competitiveness can be classified as product, process, marketing and organizational innovation (Durán-Sánchez, et al., 2019). The cited authors agree with the research of Divisekera et. al. (2019), who point out that unlike the manufacturing sector in which innovations focus on the development of new technology-based products, tourism companies concentrate on all types of innovation (Divisekera et. Al., 2019).

On the other hand, Gault (2018) defines product innovation as "an available product made for potential users that is new or significantly modified with respect to its characteristics or intentions of use (Gault, 2018).

Rodríguez-Sánchez (2015), point out that when it comes to innovation in the tourism sector, it is important to mention that they do not only refer to the digital transformation of the sector, but must be integrated into companies through their management processes. In this sense, following the integrative perspective of innovation 6.0, it is present in the main areas of the company, marketing, technologies, cost reduction, brand improvement, people management and new business models, which allows tourism organizations become more flexible and agile to the constant changes in the sector. For this reason, innovation depends positively on these aspects. (Rodríguez-Sánchez, 2015).

Tourism organizations are facing radical changes at the beginning of the new millennium (Al-Kasasbeh et al., 2016), in that sense, the fundamental key to increasing the competitiveness of the tourism sector is in innovations that become a basic source competitive advantage (Carvalho & Costa, 2011; Zontek, 2015).

This research considers the review of the literature presented by several authors and also the guidelines established in the Oslo manual, instruments that were the basis for structuring the hypotheses that incorporate four types of innovation.

The Oslo manual (2018), states that innovation activities include all financial and commercial development activities, whose orientations is or results in an innovation for the firm, such as research and experimental development activities , marketing, intellectual property, employee training, software development, innovation in management, investment in assets. For this reason, innovation depends positively on these aspects. (Oslo, 2018).

According to the manual, an innovation is a new or improved product or process that differs significantly from the previous products or processes of the unit and has been made available to potential users. Another type of innovation is marketing, which consists in using a marketing method not previously used in the company that can consist of significant changes in design, packaging, positioning, promotion or pricing, always with the aim of increasing sales. Regarding organizational innovation, it is produced by changes in company practices and procedures, modifications in the workplace, in external relations as an application of strategic decisions (Oslo, 2005).

Considering these approaches, and according to the literature regarding the positive dependence of innovation on the organizational structure, marketing and human capital, the hypotheses are set out below and incorporate the four types of innovation established in the Oslo manual.

H1: Service innovation depends positively on the organizational structure, human capital and marketing strategies.

H2: Process innovation depends positively on the organizational structure, human capital and marketing strategies.

H3: Organizational innovation depends positively on organizational structure, human capital and marketing strategies.

H4: Marketing innovation depends positively on the organizational structure, human capital and marketing strategies.

2.2. The Tourist Sector in Quito-Ecuador

Tourism is an important sector for Ecuador, because it influences the lifestyle of both the tourist and the person offering the service.

According to the World Economic report of the World Bank (2017), Ecuador received 1,544,463 tourists who spent $1,551,400,000, with an average consumption of around US $1,000. The sector represents 2.1% of GDP equivalent to US $2,123,300 and generates employment for 146,569 people (Forum, 2017).

Ecuador is a destination that offers several alternative activities for the traveler: from adventure tourism to ecotourism, agrotourism, volunteering, history and culture, water sports, incentive trips and conventions (PROECUADOR, 2012).

This research focuses on variables that determine the development of the sector, as well as the factors that influence the introduction of innovations in the sector, information that constitutes a diagnosis that identifies strengths and weaknesses in order to execute improvement plans in SMEs.

3. Methodology

To carry out this research, a 49-question questionnaire was applied, based on two models: the Ibero-American model of Excellence in Management of FUNDIBEQ (Ibero-American Foundation for Quality Management), which aims to evaluate an organization; and, the model based on the Oslo Manual, whose purpose is to determine the level of service, process, organizational an marketing innovation. (Oslo, 2005; Fundibeq, 2015).

3.1. Population and Sample

To determine the target population, the most up-to-date database provided by the Ministry of Tourism of Ecuador, registered in 2017, which includes natural or legal persons who carry out tourism activities, such as: hotel, lodging and related facilities carried out by hotel businesses, travel agency operator services, transportation, food service and drinks.

Regarding Quito, there are 5,073 businesses detailed in **table 1** and they are classified according to tourist activities and to size in large, medium, small and microenterprises. **Table 1** presents the detail of the population of the present research.

Table 1- Self - weighted population

Tourist activities	*Size*		
	Large-Medium	*Small*	*Microenterprises*
Travel agency	7	65	630
Accommodation	16	77	567
Food and drinks	10	542	2870
Recreation, fun	1	33	150
Tourist transport	3	22	80
Total	*37*	*739*	*4297*

Source: Prepared by the authors based on data from the Ministry of Tourism of Ecuador

As established in **Table 1**, there are 37 large and medium registered companies, 739 small businesses and 4297 microenterprises; this information is relevant because the present research focuses on small and microenterprises that represent 99.3% of the total population. Based on the preceding information, the sample was calculated randomly considering the five subsectors of the tourism sector, which in this study is representative of the population. The calculation of the sample size is one of the aspects to be specified in the previous phases of the research and determines the degree of credibility granted to the results obtained.

A sample size n = 207 was used, a confidence level of 95% was considered, with a margin of error of 6.7%. The population size of small and microenterprises was 5,036, based on this, the sample was obtained and presented in **table 2**.

Table 2 - Sample Size Calculation

N:	5.036
k:	1,96
e: %	6,7
p:	0,5
q:	0,5
n:	207

Source: Prepared by the authors

Table 3 presents the technical data sheet of the research with information on the population, sample size, information collection medium and date of the field research.

Table 3 - Research fact sheet

Population	5 .036 businesses
Sample size	207
Survey	Personal visit
Date of field research	May 20 to December 18 , 2018

Source: Prepared by the authors

The characteristics of the sample are presented in **table 4** and indicate the percentages of large, medium, small and microenterprises.

Table 4 - Stratified Sampling-Weights

Tourist Activity	*Large-Medium*	*Small*	*Microenterprises*
Travel agency	0%	1%	12%
Accommodation	0%	2%	11%
Food and drinks	0%	11%	57%
Recreation, fun,	0%	1%	3%
Tourist transport	0%	0%	2%

Source: Prepared by the authors based on data from the Ministry of Tourism of Ecuador

3.2. Information Gathering

The empirical research was carried out through a questionnaire and 207 SMEs established in the sample were visited, maintaining interaction with the Administrators or Managers of the subsectors of the sector.

The 207 surveys were answered. The structure of the questionnaire used is shown in **table 5**:

Table 5 - Questionnaire Structure

Themes	*Number of questions*
General data	6
External environment factors	6
Internal factors	6
Facilitating processes:	
Leadership	4
Strategy	3
Personnel development, innovation and continuous improvement	3
Resources and suppliers	2
Processes	3
customers	3
Promotion and commercialization	4
Service innovation (2014-2017)	2
Process innovation (2014-2017)	2
Organizational Innovation (2014-2017)	2
Marketing innovation (2014-2017)	3
Total	*49*

Source: Prepared by the authors

3.3. Reliability of the Scales

In order to perform the reliability analysis of the scales used, the Cronbach alpha statistic was applied.

Table 6 shows Cronbach's Alpha values and it is found that the lowest value obtained from Cronbach's Alpha corresponds to scale 1 with an index of 0.765; while, the rest of the scales are above 0.80, with scales 4 and 9 exceeding the value of 0.90 (Nunnally 1994).

Table 6 - Alpha Cronbach

Scale	*Alpha Cronbach*	*No. of elements*
1. External Environment	0 , 765	6
2. Internal Environment	0 , 876	6

3. Leadership	0 , 888	4
4. Strategy	0 , 900	3
5. People development	0 , 891	3
6. Resources and Suppliers	0 , 807	2
7. Processes	0 , 877	3
8. Customers	0 , 808	3
9. Promotion and marketing	0 , 968	4

Source: Prepared by the authors

3.4. Variables

The research focuses on the identification of environmental factors and facilitating processes that condition service, process, organizational and marketing innovation. The variables collected are based on the Ibero-American model of Management Excellence and the Oslo Manual. From this measurement of the variables the hypotheses are formulated and contrasted.

The Ibero-American Model of Management Excellence, created by FUNDIBEQ (Ibero-American Foundation for Quality Management) in 1999, aims to evaluate an organization; identifying its strengths and weaknesses in terms of strategy, processes, leadership, resources, people development, etc. (Fundibeq, 2015).

The model provides organizations with a tool for self-assessment and the basis for implementing the different management strategies.

The model proposes five facilitating processes:

- Leadership and Management Style
- Strategy
- People Development
- Supplier Resources and Partnerships
- Processes and Customers

On the other hand, the Oslo manual is a methodological guide for the elaboration of surveys and defines four types of innovations: product, process, marketing and organizational innovation and applies to both industry and services.

Europe and America have carried out innovation surveys using the models of the Oslo manual and FUNDIBEQ. On the other hand, the Ibero-American Model of Excellence in Management is the reference document for the award of the Ibero-American Quality Award that, since 2000, rewards organizations that reach a high level of excellence.

The present research uses both methodologies with adjustments considering the Ecuadorian context. Therefore, of the set of 38 variables detailed in **table 7**, a reduction in dimension was performed, for which the Kaiser-Meyer-Olkin test was used, which gives us a value of 0.839 (p = 0.000) , which is a high value, which indicates that it is feasible to group the variables into a small number of factors as shown in the table.

Table 7 - Variables used in the research

Number	*Variable*	*Type*
1	Lack of financing	Independent
2	Lack of qualified personnel in the market	Independent
3	Potential market dominated by established companies	Independent
4	Economy of the country	Independent
5	Social change	Independent
6	Variety of substitutes available	Independent
7	Lack of qualified personnel in the company	Independent
8	Staff attitude towards change	Independent
9	Company management structure	Independent
10	Lack of infrastructure and supplies	Independent
11	Availability of financial resources	Independent
12	Lack of company policies and regulations	Independent
13	Ensures that a management system is developed and implemented	Independent
14	Establish a flexible organizational structure	Independent
15	Organization leaders inspire confidence	Independent
16	Decisions are implemented based on reliable information.	Independent
17	Define priorities, allocate resources for research, and improve	Independent
18	Develop a strategy consistent with the mission, vision and values	Independent
19	Deploy strategic objectives through operational plans	Independent
20	The organization adapts to the changes and looks for new ways to render	Independent
21	Test and refine the most promising ideas of the staff	Independent
22	Involve the people of the organization in continuous improvement	Independent
23	Use financial management to support strategy and processes	Independent
24	Manage relationships with suppliers	Independent
25	Perform process innovations permanently	Independent
26	Identify key processes and involve people, suppliers,	Independent
27	Define, communicate and train people in process application	Independent
28	Design and develop new services	Independent
29	Use the marketing tools	Independent
30	Monitor customer perceptions	Independent
31	Make business practices in promotion	Independent
32	Spread the brand or image through advertising actions	Independent
33	Establish communication channels	Independent
34	Evaluate the impact of strategies, plans, sales channels and commercial actions	Independent
35	Service Innovation	Dependent
36	Process Innovation	Dependent
37	Organizational innovation	Dependent
38	Marketing Innovation	Dependent

Source: Prepared by the authors

Table 8 - KMO and Barlett test

Kaiser -Meyer- Olkin measure of sampling adequacy		*0,839*
Bartlett's sphericity test	Approx. Chi squared	9.553,199
	G l	703
	S.I.G.	0,000

Source: Prepared by the authors

When performing the factor analysis, using the analysis of main components, it shows that there are 6 factors in which the variables can be grouped, these factors are responsible for 74.912% of the total variance explained, information shown in **table 9**.

Table 9 - Total variance explained

Component		*Initial eigenvalues*			*Sums of charges squared of rotation*		
		Total	*% of variance*	*% accumulate or side*	*Total*	*% of variance*	*% accumulated*
Pure	one	17 , 956	35 , 538	35 , 538	8 , 751	17 , 319	17 , 319
	two	7 , 206	14 , 262	49 , 800	9 , 828	19 , 451	36 , 770
	3	6 , 467	12 , 799	62 , 599	6 , 327	12 , 522	49 , 291
	4	2 , 789	5 , 520	68 , 120	5 , 127	10 , 147	59 , 438
	5	1 , 906	3 , 772	71 , 891	3 , 842	7 , 603	67 , 041
	6	1 , 526	3 , 020	74 , 912	3 , 977	7 , 870	74 , 912

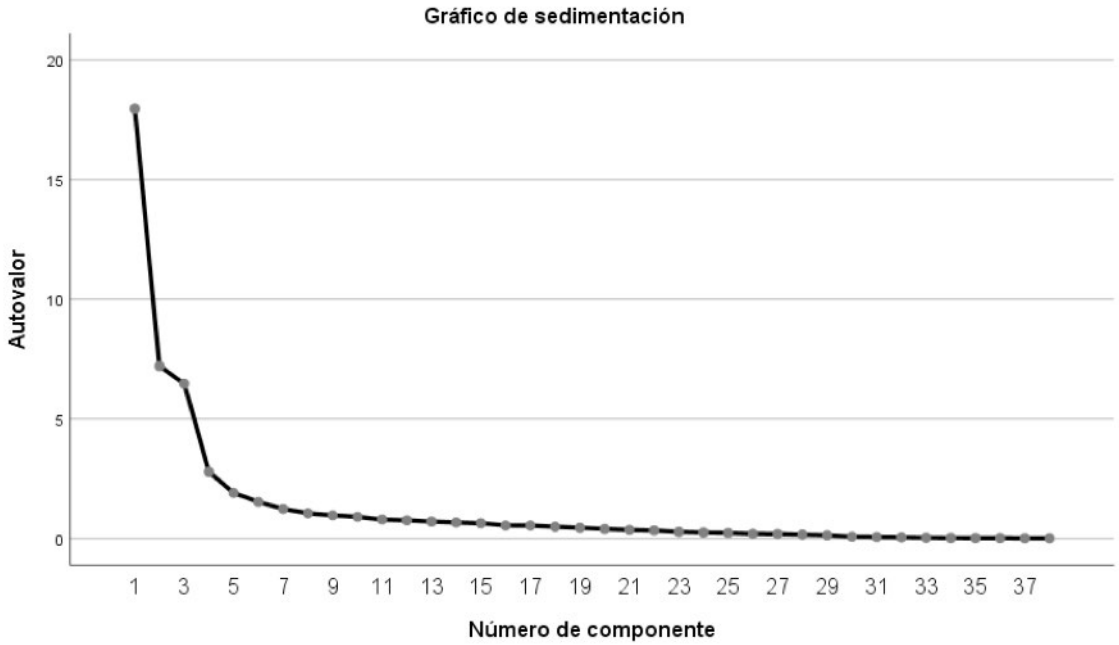
Source: Prepared by the authors

Graph 1 shows the sedimentation of the factors, in which it can be seen that of the 38 variables, only 21 have eigenvalues greater than zero, and that the rest (17 variables), have eigenvalues close to zero. This analysis was performed by rotating the variables and using the Varimax method, as shown in **table 9**.

Table 10 shows the variables that have the greatest weight, for each of the six factors. These factors are indexes constructed by the following group of variables: factor 1 represents an index of variables related to management and processes, factor 2 is an index that relates promotion and communication variables, factor 3 is an index that relates variables of human capital, factor 4 is an index that relates resources for research and innovation activities, factor 5 is an index that relates available substitutes and factor 6 is an index with market research.

The extraction method used is the analysis of main components, and the rotation method is Varimax, with Kaiser normalization. The variables that make up each factor are:

Graph 1 – Factor sedimentation graph



Source: Prepared by the authors.

Table 10 - Rotating component matrix

Index	*Variable*	*Weight*
Factor 1 (management and processes)	Use financial management to support the strategy and processes of the organization	0.892
	Manage relationships with suppliers	0.803
	Perform process innovations permanently	0.865
	Identify key processes and involve people, suppliers, partners	0.917
	Define, communicate and train people in process application	0.834
	Resources and suppliers	0.827
	Processes	0.905
Factor 2 (promotion and communication)	Make business practices in promotion	1,277
	Spread the brand or image through advertising actions	1,373
	Establish communication channels	1,403
	Evaluate the impact of strategies, plans, sales channels and commercial actions	1,384

Factor 3 (human capital)	Lack of qualified personnel in the company	0.8
	Staff attitude towards change	0.84
	Company management structure	1,002
	Lack of infrastructure and supplies	1,029
	Lack of company policies and regulations	0.97
	Internal environment	0.82
Factor 4 (resources)	Define priorities, allocating resources for research, innovation, creativity and improvement activities	0.919
Factor 5 (substitutes available)	Variety of substitutes available	0.809
Factor 6 (market research)	Use marketing tools, market research to determine service needs	1,102
	Monitor customer perceptions	1,014

Source: Prepared by the authors

4. Results

4.1. Econometric Models

With these factors, four econometric models are constructed, for the dependent variables of innovation: 1) Service innovation, 2) Process innovation, 3) Organizational innovation, and 4) marketing innovation. As independent variables, the factors were taken first, and then the variables. The details of the models are as follows:

4.1.1. Service innovation:

Model 1: Service innovation = 1,459 + 0.126 * Factor2 + 0.091 * Factor4
Model 2: Service innovation = 1,138 + 0,134 * Develop a strategy + 0,136 * Make business practices in promotion

Table 11 presents a summary of the models, establishing that the econometric model of service innovation in model 1 depends on factor 2 (related to promotion and communication) and factor 4 (related to resources). Also, service innovation, in model 2, depends on the variables: develops a strategy consistent with the mission, vision and values, and based on the needs and expectations of the stakeholders, and it carries out business practices in promotion, since they have very low significant values ($p \leq 0,05$). With respect to factors 2 and 4, and with respect to the variables; there is a value of $\beta \neq 0$ in both models, therefore, is dependent on the indicated factors and the indicated variables.

Table 11 - Model Summary

Model 1	β	*T*	*Sig.*
(Constant)	1,459	39.161	0,000
Factor 2	0,126	3,376	*** 0,001
Factor 4	0,091	2,442	** 0,015
Model 2	β	*T*	*Sig.*
(Constant)	1,138	6,203	0,000
Develop a strategy consistent with the mission, vision and values, and based on the needs and expectations of the stakeholders	0,134	3,136	** 0,002
Make business practices in promotion	0,136	2,846	** 0,005

Note: **, ***, respectively, significant values ** p≤0,05; ***p≤0,001
Source: Prepared by the authors

4.1.2. Process innovation:

Model 1: Process innovation = 1,739 + 0.149 * Factor2 + 0.2 * Factor6
Model 2: Process innovation = 1,139 - 0,09 Company management structure + 0,184 * uses marketing tools.

Table 12 - Model Summary

Model 1	β	*T*	*Sig.*
(Constant)	1,739	5,738	0,000
Factor 2	0,149	2,539	** 0,012
Factor 6	0,2	3,403	*** 0,001
Model 2	β	*T*	*Sig.*
(Constant)	1,139	5,738	0,000
Company´s management structure	0,090	-1,99	** 0,048
Use marketing tools, market research	0,184	4,078	***0,000

Note: **, ***, respectively, significant values ** p≤0,05; ***p≤0,001
Source: Prepared by the authors

Table 12 presents a summary of the models, establishing that the econometric model of process innovation in model 1 depends on factor 2 (related to promotion and communication) and factor 6 (related to market research). Also, process innovation, in model 2, depends on the variables: structures the management of the company, and uses the tools of marketing, market research to determine service needs, since they have very low significant values ($p \leq 0,05$). With respect to the factors 2 and 6, and with respect to the variables; they have a value of $\beta \neq 0$ in both models, therefore, there is dependence on the indicated factors and the indicated variables.

4.1.3. Organizational innovation:

Table 13 - Model Summary

Model 1	β	*T*	*Sig.*
(Constant)	0,000	38,144	0,000
Factor 1	0,020	0,280	* 0,780
Factor 2	-0,062	-0,886	* 0,377
Factor 3	-0,048	-0,680	* 0,497
Factor 4	0,036	0,517	* 0,606
Factor 5	-0,043	-0,607	* 0,545
Factor 6	0,055	0,777	* 0,438
Model 2	β	*T*	*Sig.*
(Constant)	0,000	6,260	0,000
Identify key process and involve people, suppliers, partners	0,043	0,528	* 0,598
Design and develop new services	0,077	0,892	* 0,373
Monitor customer perceptions	0,037	0,467	* 0,641

Note: * p ≥ 0,05
Source: Prepared by the authors

A summary of the model is presented in **table 13**, stating that the econometric model of organizational innovation, has very high significant values (p ≥ 0.05), with respect to the factors, and with respect to the variables; they have a value of β = 0, therefore, there is no dependence on the factors and variables indicated.

4.1.4. Marketing innovation:

A summary of the model is presented in **Table 14**, stating that the econometric model of marketing innovation has very high significant values (p ≥ 0,05), with respect to the factors, and with respect to the variables, they have a value of β = 0, therefore, there is no dependence on the factors and variables indicated.

Table 14 - Model Summary

Model 1	β	*T*	*Sig.*
(Constant)	0,000	28,855	0,000
Factor 1	0,030	0,426	* 0,671
Factor 2	0,040	0,576	* 0,565
Factor 3	-0,091	-1,304	* 0,194
Factor 4	0,078	1,125	* 0,262
Factor 5	-0,007	-0,107	* 0,915
Factor 6	0,107	1,535	* 0,126
Model 2	β	*T*	*Sig.*
(Constant)	0,000	5,611	0,000
Lack of financing	0,053	0,757	* 0,450
Develop a strategy consistent with the mission, vision and values	0,072	1,022	* 0,308

Note: * p ≥ 0,05
Source: Prepared by the authors

5. Discussion

This research provides empirical evidence on the topic of innovation in the small and microenterprise tourism sector. Once the instrument was applied to 207 organizations in the tourism sector in Quito, the statistical analysis of the instrument presented satisfactory reliability when obtaining a high, good and acceptable Cronbach's alpha at the established scales.

The application of the factor analysis using the analysis of main components, allowed to establish 6 factors that are indexes in which the variables were grouped, which were responsible for 74.912% of the total variance, with these indexes two econometric models were constructed, for the innovation variables: 1) Service innovation, 2)Process innovation, 3) Organizational innovation, 4) Marketing innovation.

It is observed that the service innovation variable in the proposed model 1, depends on promotional practices, brand and image dissemination, communication channels and commercial actions (factor 2) and resources for research, innovation, creativity and improvement (factor 4). On the other hand, the proposed model 2 depends on the development of a strategy consistent with the mission, vision and values, and based on the needs and expectations of the stakeholders.

These results confirm what was cited by Delgado et al (2016) that innovation in products is directed towards customer satisfaction, through the application of techniques and innovations in services. The results also coincide with that expressed by Snyder, et al. (2016) that maintain that the launch of a new

and significantly improved good, service or other, should create value to all involved, be they customers, employees, shareholders, strategic allies and communities, among others. In this way, hypothesis 1 is corroborated, which states that service innovation depends on the organizational structure, human capital and marketing strategies.

Additionally, the findings show that process innovation in the proposed model 1 depends on promotional practices, brand and image dissemination, communication channels and commercial actions (factor 2), marketing tools, market research and supervision of the customer perceptions (factor 6), validating the theory of Snyder, et al (2016). Also, the results of the proposed model 2 shows that it depends on the variables: structure of the company's management and, marketing tools and market research to determine service needs. These results are in line with those cited by Corona and Zárraga, 2014, Corona and Ruiz, 2015 and Villegas et al. 2016, which indicated that the dimensions of innovation capacity that they preside over are the organizational structure and human capital. First, there are aspects about the strategic constitution, the work environment and the leadership of the company to innovate. The results support hypothesis 2 that states that process innovation depends on the organizational structure, human capital and marketing strategies.

Regarding organizational innovation and marketing innovation, the developed econometric models show that they do not depend on any of the six factors, nor on the independent variables. Therefore, H3 and H4 are not accepted, since the calculated probabilities, they have significantly higher values, with ($p \geq 0.05$), so these models are rejected.

The findings of this research coincides with the works cited by Carvalho and Costa (2011) and Zbigniew (2015), in which the fundamental key to increasing the competitiveness of the tourism sector is in innovations that becomes a basic source of competitive advantage (Carvalho & Costa, 2011; Zbigniew, 2015).

Finally, the results obtained in the present research allow for an important analysis and an interesting approximation on the factors that influence innovation in the medium, small and microenterprises of the tourism sector, which can be complemented with new research that offers a variety nuances from the operational and service areas. These results can be useful to improve levels of competitiveness, mainly in countries where tourism activity has a high impact, generating sources of employment, income and to economic development.

6. Conclusions

Within the services sector, tourism plays an important role in the economy of the countries because it contributes to economic growth, generates new jobs, raises the quality of life of local society and increases the potential for competitiveness of the regions.

The fast growth of international tourism, new customer trends, new information technologies and the evolution of the economy are some of the challenges faced by the tourism sector. Such challenges require innovative responses to ensure that tourism increases its competitiveness.

Several authors agree that innovation that points to organizational competitiveness can be classified as product innovation that involves the introduction of new goods or services. Process innovation related to the introduction of a new or significantly improved production or distribution process. Marketing innovation that refers to a new method of marketing and promotion. Organizational innovation that makes a new organizational method in practices and organization of the workplace.

Regarding the practical part of the research, the methodology of empirical research based on FUNDIBEQ and the Oslo Manual introduce adaptations to the methodology according to the needs and realities of the Ecuadorian context, and applying the factor analysis and econometric models, provided results on innovation in medium, small and microenterprises in the tourism sector of Quito.

The results obtained show that both innovation in tourism service and process are related to promotion and communication elements, such as business practices in promotion, brand and image dissemination through advertising, communication channels, plans and commercial activities.

Additionally, service innovation is related to the allocation of resources for research, creativity, improvement activities and the development of a strategy consistent with the mission, vision and values, and based on the needs and expectations of interest groups.
It is also established that process innovation is related to market research and marketing tools that allow the determination of service needs.

The results show statistically that there is no relationship between organizational innovation and the factors proposed, as well as with the variables proposed in the model, since they have very high significant values ($p \geq 0.05$), and they have a value of $\beta = 0$ in both cases, therefore, there is no dependence on the factors and variables indicated.

In the same way, there is no relationship between marketing innovation and the factors proposed, as well as with the variables proposed in the model, since they have very high significant values ($p \geq 0.05$), and they have a value of $\beta = 0$ in both cases, therefore, there is no dependence on the factors and variables indicated. These results are a topic of interest for future research, in order to understand this behavior in organizational innovation and marketing innovation.

In addition, the findings provide the first results on innovation in medium, small an microenterprises in the tourism sector in Ecuador, and also provide validated information obtained through a scientific methodology. The hypotheses tested through regression should be investigated in greater depth in the future, extending the study to other sectors and using other related variables.

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