

## **FUTURE SCENARIOS FOR TOURISM PROGRAMS OF HIGHER EDUCATIONAL INSTITUTIONS IN THE MUNICIPALITY OF BUGA AND ITS AREA OF INFLUENCE HORIZON 2021-2030**

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### **Abstract**

*This research presents an analysis of the strategic prospective of the tourism academic training programs in higher education institutions in the municipality of Guadalajara de Buga and its area of influence: El Cerrito, Ginebra, Guacarí, Restrepo, San Pedro, Yotoco and Calima Darién, (Government of Valle del Cauca., 2016). The objective of this study revolves around two axes: 1. Identify the possible and probable future scenarios of the tourist programs offered by higher education institutions in Guadalajara de Buga and its area of influence; 2. From the identified scenarios, the bet scenario is defined to which the educational institutions that offer the tourist programs should be directed. According to the opinion of experts and key actors, the policies and strategies for the improvement oriented to the development and competitiveness of comprehensive academic training for professional training in tourism are determined by public and private institutions of higher education in Guadalajara de Buga and its area of influence, seeking to generate a positive impact on the environment of the central region of the Valley and enriching its development for its insertion in an international context. This study applies the methodology proposed in "the toolbox of strategic foresight" and involves other methods such as analysis of importance and governance, as well as elements of sectoral analysis. This research was carried out in two phases: diagnostic and prospective. In the diagnosis, a documentary analysis was carried out, consultation with key actors and experts; Tools*



*such as brainstorming, Regnier's Abacus, structural analysis were applied, and for the design of the scenarios the detailed analysis of the results was used in order to propose the exploratory scenarios and from these propose the bet scenario.*

**Keywords:** *tourism sector, vocational training, strategy, prospective, importance, governance and scenarios, Buga, area of influence.*

## INTRODUCTION

Today humanity is at the beginning of the Fourth Industrial Revolution. Developments in genetics, artificial intelligence, robotics, nanotechnology, 3D printing and biotechnology are building on and amplifying each other. While the imminent change is very promising, the patterns of consumption, production and employment created by technological advancement also pose great challenges that require a proactive adaptation of educational institutions and therefore of their academic programs (Godet & Durance, Strategic foresight for companies and territories, 2011).

Disruptive changes in business models will have a profound impact on the job landscape in the coming years. In many industries and countries, the most in-demand occupations or specialties today did not exist 10 or even five years ago. 65% of children entering primary school today will end up working in completely new jobs that do not yet exist. (World Economic Forum, 2016)

According to The Mission of the Wise, at the (2019) same time as the technological revolution, there is a set of broader socioeconomic, geopolitical and demographic drivers of change, each interacting in multiple directions and intensifying each other, which demands a greater capacity for anticipation on the part of educational institutions to strategically read the environment, and thus develop proposals that allow us to address the great challenges of humanity with a long-term vision.

According to ECLAC, (2016) universities have become institutions of a globalized world, responses to global challenges are increasingly dependent on technological innovation and scientific development mediated by policymakers and decision-makers. Increasingly, universities are competing with each other, to attract talented funding, professors and students. The reputation of a university is made worldwide. This trend is accelerating with the digital revolution, which is giving universities an even greater global presence through their online courses. (UNESCO, 2015)

According to Mintzberg, (1999) it refers that the directors of the organizations must be strategic and prospective; because this knowledge generates opportunities to build scenarios where there are more possibilities, so that the organization reaches an efficient development aimed at being more competitive, positioning, quality, innovation among other multiple efficiency factors.

For Barbieri (1993), the construction of the future, based on the past and present from the analysis of them we can visualize the desired future for organizations, a situation



that leads to the formulation of forecasts, which must be built through objectives, goals and executed by actions that must be treated planned.

As Morreseay says (1997) , this research suggests a thorough and structured study with the tourism sector, in order to better understand the change in the managerial functions and institutions of the sector, in order to elaborate more precise concepts, internal and external analysis and more objective generalizations. For Astigarraga(2016), the approach of long-term goals and objectives allows in the projection of a scenario bet added to the actions to be undertaken and the respective organization. According to Ansoff, the future is not necessarily expected to be better than the past, but seeks greater consistency and correspondence during its creation. These approaches refer to the school of Planning. Corresponding to the same school of Steiner thought which establishes a strategic planning structure composed of three phases: the premises, planning and implementation and review. (1965)(1998)

Therefore, the strategies emerge already mature from this process and then are articulated and applied. Positioning is one of the most sought after results by entrepreneurs and one of the great objectives of organizations, according to Porter "every company that competes in an industry has a competitive strategy, either explicit or implicit and this could have been developed explicitly in a planned process or implicitly in the activities of their departments" (p. 31). (1980)

One of the most relevant factors of this research is that concerning the prospective issue, because the result is to define the future scenarios for the tourism programs offered by higher education institutions in Guadalajara de Buga and its area of influence.

According to Godet, the future is not written, it must be built and much of the future moment is the result of the actions of the past. For the author, competitiveness is not assured by productivity: In addition, quality, innovation that require behavior, decision and creativity at each of the levels of the organization are indispensable. For this reason, the certainty arises that the main factor of competitiveness and excellence is the human and organizational factor. (1993) Godet (1993) represents these approaches in the Greek triangle. "It is, therefore, the collective prospective reflection on the threats and opportunities of the environment that gives content to the mobilization allows the appropriation of the objectives of the strategy. (p.4).

Continuing with Baena's approaches, (2015) this research aims to establish after the application of prospective tools, some scenarios which are considered the Trend scenario, which refers to the most likely according to the present circumstances without seeking to tend to a change in its variables, the possible scenarios that seek everything that can be imagined by the organization, The realizable scenarios point to everything that is of probable occurrence of the restrictions, pessimistic scenario which seeks to take into account the materialization of the risks and finally the betting scenarios that seek everything possible, but are not necessarily achievable. It is



necessary to take into account the relationship between scenarios and strategies. Godet (1993) states that "The scenarios depend on the type of vision adopted (exploratory, normative or rather retrospective) and probability, the strategies depend on attitudes towards possible futures (p. 45).

To consolidate the study and that it has a relevance in its applicability, reference is made to the fact that the prospective model must be influenced by the incorporation of the organizational intelligence structure. In addition to the above, the needs of the organization must be justified and the numerous scenarios that organizations must face today such as low production, low profitability, competition and sudden changes in the environment, in addition to technological changes that go at an extreme speed, thus providing a great opportunity for innovation and development in learning processes and providing the Fundamental resources for companies to manage and create new knowledge that adds to the formulation of competitive advantage. (Haber veja & Más Basnuevo, 2013)(Saavedra & Saavedra, 2014)

It is necessary to study how from the adequate obtaining, storage and treatment of available information, the company is able to extract and generate knowledge that will guide it in its future actions. (Almagro Pedreño, 2014).

Organizations must understand foresight as actions that through strategies generate a strategic capacity on which the survival of the company will depend, the current dynamism of the market and greater competitiveness, contribute definitively to consider it as a necessary capacity and intervene directly in the adaptation to increasingly changing environments.(Biomundi Consulting, 2014)(Wells , 2008)

### **METHODOLOGY**

This article is based on exploratory research, according to , this type of research, contributes to "investigate new problems, identify promising concepts or variables, establish priorities for future research, or suggest statements and postulates" (p.91).(Sampieri, 2014)

The methodology used for the development of the prospective exercise for the tourist programs offered by the higher education institutions of the municipality of Buga and its area of influence, is based, at a general level, on the construction of scenarios. According to Godet, the construction of the scenarios must be formulated under pertinent, coherent premises, credibility and transparency seeking that these represent "reality, destined to illuminate the present action with the light of the possible desirable futures" p. (18). (1993)

The research was developed in 2 phases: the first, diagnostic and the second, strategic prospective. In both phases, strategic management tools and prospective tools and methods were used. Figure 1 presents the methodological instruments applied throughout the prospective process. (See graph 2).



### **Phase 1. Diagnostic phase.**

The analysis of the tourism value chain of Guadalajara de Buga and its area of influence (see figure 2). According to Pallares(2004), part of the concept on the relevance of the articulations between each of the parts of the production chain for the development and competitiveness of the clusters. Betancourth & Londoño, (2020) for the municipality of Guadalajara de Buga, tourism is one of the municipalities of the Center of the Valley with the best infrastructure and tourist security, obtaining a high performance in the value chain. The above situation, although favorable for tourism development, strengthens the need to have a human talent competent enough to provide solutions to the needs of the tourism market. In this way, the diagnostic stage based on Betancourth's approaches began, where documentary analysis was first resorted to consulting texts, research and articles about the tourism sector. Secondly, the actors of the sector were consulted through brainstorming, with the aim of knowing the variables with which the prospective exercise would be developed. In addition to the above, the Delphi or consultation of experts in the tourism sector was carried out in order to highlight the influence of the opinion of the experts and to know some specific situations of the tourism sector and the demand for human talent at the municipal, regional and national levels, strengthening the contributions in the construction of the results of importance and governability. Subsequently, the (2014)(Betancourt B. , 2013) Regnier Abacus was held, which allowed the revelation and representation of the opinions of the experts, as well as the perception of the actors that interact with the tourist environment and how it impacts the academic offer taught by the institutions of higher education in Guadalajara de Buga and its area of influence. The above was carried out, on each of the variables raised by brainstorming. (Régnier, 1989) Thirdly, the analysis of motor skills and dependence was carried out using the MICMAC software (Matrix of Cross Impacts - Multiplication Applied to a Classification), in which the direct and indirect relationships between the variables of the system were identified, to facilitate the analysis of their evolution. Fourth, the diagnostic phase was closed with the analysis of importance and governance (IGO), a technique that according to Mojica, allows to study the situations, variables and characteristics of the system, in order to build the bet scenario, based on the relevance of the actions with their governance.(2005)

### **Phase 2. Foresight and Strategy.**

First, the scenario method applied in the study of the metalworking sector in the municipality of Tuluá and its area of influence, was based on the results obtained in the different prospective techniques applied in phase (1) and recommended by the authors Godet in his "prospective toolbox" and by Medina (2000)& Ortegón in his "Manual of foresight and strategic decision". All the above results originate a basis for the construction of scenarios, tending to provide them with the greatest possible

coherence in an orderly anticipation that is constituted from the hypotheses and is projected in a specific horizon. (2006) (Peter & Andy, 2012)

In the second instance, the probable exploratory scenarios were identified, three scenarios were formulated: optimistic (favorable), pessimistic (unfavorable) and trending, then the probabilities of future occurrence were analyzed according to the estimation of the experts and according to the behavior reflected in each of the variables, according to the results thrown by the tools carried out. (Gándara & Osorio, 2017).

Thirdly, the "Bet" scenario was proposed based on the exploratory scenarios (optimistic, pessimistic and trending). Once the results were obtained through the prospective tools, the bet was determined; The favorable, unfavorable and trending consequences shown in the exploratory scenarios were also analyzed, in order to define the desired future image or bet. The prospective process leads to considering a possible near future as part of the construction of the most beneficial long-term future. In prospective, the actions of the present are worked according to the probable and possible desired future, without wasting a past and a present known with relative sufficiency. . (Godet & Durance, 2011)(Medina Vàsquez, Becerra, & Castaño, 2014)

Graph 1, Methodological Processico.



Source: Own elaboration, adapted from Betancourt & Cruz (2018)

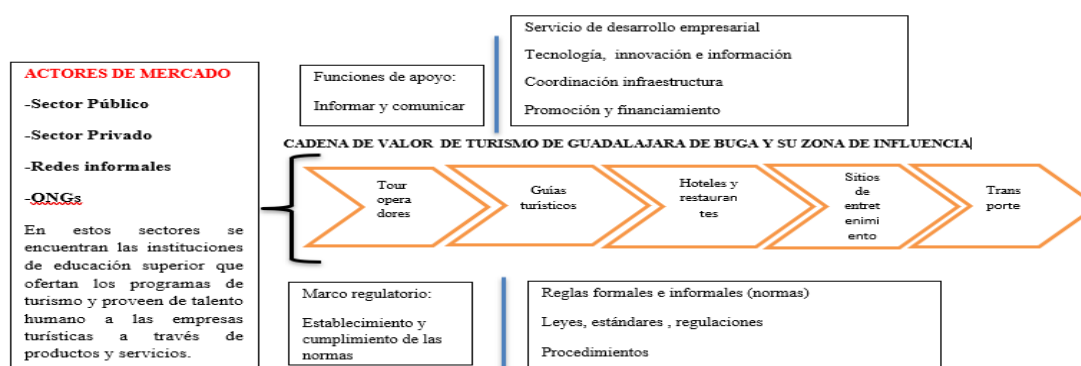
**Results of the Diagnosis of the tourist programs offered by the institutions of higher education of Guadalajara de Buga and its area of influence:**

**Results of Brainstorming:** The brainstorming or brainstorming, allowed to collect ideas from a group of people who have a wide impact on the tourism sector and especially in



the relationship of this with human talent, such as university professors researchers in tourism, university rectors, directors of entities and private companies that work in the development of the tourism sector in Valle del Cauca and representatives of the guild tourist and gastronomic. A free and rigorous debate was made in order to select the variables of greater confluence for the tourism sector and that affects the training system (programs), offered by the institutions of higher education in Guadalajara de Buga and if area of influence, in the same way the variables were discarded, discarding those that were indifferent to the actors that according to the key actors present less influence for the sector and subject under study. (Betancourt, 2011) .

**Grafica No2, Tourist Value Chain of Guadalajara de Buga and its area of influence.**



Source: Authors, adapted from the International Labour Organization(2017)  
Taking into account the experience of the aforementioned actors, a total of 30 variables are proposed, which are represented in the following table with their respective contextualization and short name to be recognized in the Software and plans raised in the study, See table No 1.

**Table 1, Table of description of the variables that surround the system.**

No.	LONG LABEL	SHORT LABEL	DESCRIPTION
1	National policies for the financing of higher education	Polfineducus	Policies of the Colombian State to finance higher education in Colombia.
2	Higher Education Legislation	Legiedusup	Laws and regulations governing Higher Education in Colombia.
3	Financial sustainability of tourism programmes	Sostfinapr	Economic resources of different indoles that allow a financial viability of the tourism programs offered by higher education institutions.



No.	LONG LABEL	SHORT LABEL	DESCRIPTION
4	Learning Methodology	Metoaprend	Methodology used by institutions for tourism programs.
5	Teacher Training for Tourism Teachers of Higher Education Institutions	Formaprofe	Training in methodologies, teaching processes, didactics among others to teachers.
6	Articulation of academic programs with the tourism sector.	Artisector	How the learning acquired by students in soft and hard skills is articulated, for the tourism, gastronomic sector among others.
7	Academic offer based on the conditions and needs of the current market.	Ofermeract	Academic offer of tourism programs, which meets the current needs of the tourist market, gastronomic among others.
8	Academic offer based on the conditions and needs of the future market.	Ofermerfut	Academic offer of tourism programs or that will meet the future needs of the tourism market, gastronomy among others.
9	Knowledge Management for tourism programs.	Gesconored	Management of tacit knowledge to explicit knowledge of each all the human components that belong to the tourist programs offered by higher education institutions.
10	Organizational culture of higher education institutions that offer tourism programs.	Culorgred	Proactive culture of the institutions that offer tourism programs.
11	Technology for training in skills in the tourism, gastronomic sector among others.	Tecnolored	Technology to address the formation of the sector to which tourism programs influence.
12	Infrastructure and physical plant of higher education institutions for the development of tourism programs.	Infraesred	Infrastructure and physical plant that allow a better performance of the training tasks.
13	Research for the innovation of tourism programs.	Invesinova	Development of research processes to develop innovation in tourism programs.
14	Inter-institutional cooperation	Coointer	Cooperation between both public and private entities to improve processes concerning the formation of tourism programs.





No.	LONG LABEL	SHORT LABEL	DESCRIPTION
15	Address	Address	Management of tourism programmes (rectors of public higher education institutions)
16	Existence and permanence of an academic community from beginning to end of programs in higher education institutions.	Percomuaca	That students exist and remain from beginning to end of each of the programs. Number of enrolled students vs graduate students.
17	Social and environmental sustainability	Sostesoamb	Sustainability with direct and indirect society and with the environment.
18	Characterization of generational demand	Caracdemge	Characterize the demand according to the generations (tastes, ways of thinking, projects, trends ...), the above in order to know the offer that is both present and the future changes that must be implemented.
19	Corporate image of higher education institutions that offer tourism programs.	Imagcored	Corporate image that institutions have at the municipal, regional, national and international levels.
20	Internationalization of tourism programs.	Internapro	Internationalization of tourism programs. How you can offer programs in other countries, exchanges, presentations, among others
21	Image of students and graduates of tourism programs in the labor market	Imaestuegr	Image that students and graduates of the tourist programs of the educational institutions of Buga and its area of influence have in the labor market.
22	Regionalization of the academic offer of tourism programs.	Regioproga	Regionalize the offer of tourism programs offered by higher education institutions.
23	Linking to the labor market of students of tourism programs.	Vinmerlab	Linking students in the labor market influenced by tourism programs.
24	Competences for the formation of tourism programs.	Compforma	Skills that current and future learners need and that allow them to be successful in the labor market and their professional lives.
25	Promotion of the academic offer of tourism programs.	Promoprogr	How the programs are promoted in the market under study. The way they are promoted is attractive.



No.	LONG LABEL	SHORT LABEL	DESCRIPTION
26	Biosecurity to avoid the impact of diseases or virus transmissions such as Covid 19.	Biosafety	Biosecurity, habits, protocols that seek to minimize contagion and that present customers, users and the community in general with a good appropriation of the rules.
27	Consumer behavior, analysis of demand for tourism programs.	Comconsu	How the consumer behaves to whom the programs will impact.
28	Customer and consumer perception	Perceclico	How customers and consumers see the tourist programs offered by higher education institutions in Buga and its area of influence.
29	Culture for tourism in Valle del Cauca	Cultuturis	Culture of the population, norms, laws that encourage it and that generate an environment conducive to the academic offer.
30	Socioeconomics of Valle del Cauca.	Socioecono	How Valle del Cauca is characterized socially and economically.

Source: Authors.

### Results of the Diagnosis of the tourism sector for the offer of tourist programs.

**Results of DELPHI:** For the application of this methodology of foresight, interviews were conducted with eight professionals who in one way or another were considered as experts to comment on the current and future state of the tourism sector and the formation of tourism programs offered by higher education institutions in the Valle del Cauca region and nationally and internationally. The selection of the experts was made "according to criteria of experience, knowledge, willingness, commitment and access to the information provided by the expert. (Ramírez Plazas & Pàramo Morales, 2009, p. 85) Se did a structured interview of 10 questions consistent with the most relevant variables according to the expert's criteria. For the application of this prospective methodology, interviews were conducted with 7 professionals who in one way or another were considered as experts to comment on the current and future status of the training programs offered by higher education institutions in Guadalajara de Buga and its area of influence for the tourism sector. Each member of the group selected one person to interview. A structured interview of 10 questions was conducted, consistent with the most relevant variables according to the expert's criteria. The 10 questions are listed below:

1. What are the current and future challenges facing the academy for the training of professionals in the tourism and gastronomic sector?



2. How do you see competitiveness currently in the tourism and gastronomic sector and what do you think are the variables with the greatest incidence and the key success factors for the development of the sector under study?
3. From your experience, for higher education institutions that train professionals in the tourism and gastronomic sector, what do you think are the main opportunities and threats in Colombia and internationally in the medium and long term?
4. At the level of Colombia, what strategic factors should the tourism industry bet on, in terms of its human talent? Do you also believe that the sector has people trained to face the challenges of this industry?
5. From the competitive point of view, how is Valle del Cauca compared to the other departments in the tourism and gastronomic sector and what do you think are the variables with the greatest impact on its development?
6. Where do we have to deepen and strive from academia, so that our students have a more holistic and international vision of the tourism and gastronomic sector?
7. Do the financial and governmental conditions (policies for higher education, policies for the development of tourism, ...), of the moment facilitate the financial leverage, development and growth of the tourism, gastronomy, and academic sector, the latter as a resource for cooperation, provider of human talent, knowledge management and applied research?
8. How is Colombia's tourism and gastronomic sector viewed by developed countries?
9. How could strategic alliances and between whom be used to venture into the international markets of the tourism and gastronomic sector?
10. From your point of view, what would be the lines of research that the academy should strengthen for tourism and gastronomy programs in Colombia, which allows them a greater development both current and future?

### Analysis of Interviews

In the following table, the analysis of all the interviews with the experts is carried out.

**Table 2, Experts' consolidation response.**

Question No	Answer
1	High-level training of the actors of the sector in general (operational, support, logistics, complementary ... different links of the tourist and gastronomic chain among others). It requires professionals with vocation and high research skills, foreign language proficiency, as well as the ability to undertake. It is important that future professionals have tools for the creation and continuation of their own business projects with high knowledge of environmental, social and financial sustainability, technical skills to diagnose the needs of the environment and generate proposals for solutions to problems that arise in the sector and organizations.



- 2 It is necessary to monitor changes in supply, which is linked to changes in the labor market, demand, income, technology, public health (Covid 19), state support and innovation. The key success factors to be taken into account focus on the integration of the different actors which together must aim at improving infrastructure, differentiation of supply, identity, quality academic training, and design of strategies that allow generating sustainability, promotion and loyalty of the sector under study.
- 3 There are many opportunities such as cultural, environmental, landscape, fauna and flora, artisanal, gastronomic (factors of comparative advantage), with which our territories count, in addition to training professionals for more competitive markets, development of local tourism and unexplored destinations, As main threats those related to: Insecurity, uncertain and variant political will, lack of state support, Little technological development, little research, intensive exploitation, monocultures, industrialized products, loss of traditional recipes, inclusion of professionals in the labor market.
- 4 Consolidation of academic, research, business networks, betting on the strengthening of regional products, tourism development in the regions and innovation (in processes, products, organizational, marketing and business models among others), the consolidation of the tourism cluster, improve the social and economic conditions of the population of the tourist regions. Bet on the planning of tourism regions (or with tourism potential) for the consolidation of public policies aligned regionally, departmentally and nationally with the integration of integral tourism actors (the State, the Academy, the Entrepreneurs, the actors of tourism and the communities that revolve around tourism)
- 5 The behavior of Valle del Cauca is not different from what happens in other regions of the country. The Pacific Valle Cauca region is affected by poverty, lack of education and access to health. It is necessary to consolidate world-class and national events. Better exploit sports, cultural, religious, landscape, gastronomic and entertainment tourism. Lack of consolidation of illustrious. In Colombia, the Center for Tourism Thought carries out a measurement and analysis of tourism competitiveness by regions, Valle del Cauca in 2020 ranked number 2 nationally, its strengths are the dimensions: cultural, marketing strategy and infrastructure. On the other hand, its weak points are: business management, destination management and social factors. Thus, the variables on which it should focus for the development of tourism competitiveness are: environmental vulnerability, biodiversity at risk, natural areas of tourist use, areas of environmental protection, festivities and traditional events, air transport prices, prices of tourist packages, participation of tourism in GDP, gross fixed capital formation in the sector, List of tourism service providers with cancelled registration, public-private cooperation agreements, availability of tourist packages, participation in international fairs specialized in



	tourism, tourism in development plans, parafiscal contribution, project financing, investment budget for tourism, specialized offices in tourism management, availability of tourism police, tourist information points, labor informality, indefinite contracting, postgraduate programs in tourism, salary of the tourism sector, participation of tourism in employment.
6	Strengthen the theme of languages, issues of Sustainability, culture, consumption, consumer trends, use ICT to carry out innovation, expand and diversify in tourism issues, make alliances with the sector, improve the mobility of students and teachers (international exchanges), it is necessary that our future professionals are entrepreneurs, have identity, creativity, innovation, research.
7	No, because of the difficulties that arise, however, there are also experiences that the tourism sector is advancing despite the difficulties. This, because they have found other possibilities, changing their strategies and innovating in the ways of doing tourism and in the tourist chain.
8	Colombia has a great future. We are just waking up and recognizing the flow of tourism that we could offer. The tourism theme is new in Colombia. Some topics are of interest and attractive to foreign tourists, especially for sports tourism, nature, historical and architectural sites, however, currently, political factors, violence (death of social leaders), insecurity, political improvisation and little interest in the consolidation of La Paz, makes us be seen with many reluctance.
9	Initially, internal strategic alliances should be made, consolidation of illustrious people, networks of entrepreneurs, articulation of the State-Academy-Business, but if this is not done, it would be difficult to reach international alliances. It is necessary to strengthen public-private partnerships in the coming years to develop local tourism and mature during these years to become internationally competitive. We must take this as an opportunity.
10	Rural tourism aimed at improving the quality of life of the communities, compendium of legends to sell the products, typical local dishes, shorten the differences and gaps between products, services and tourist destinations of the regions and localities, international promotion of the country, changes in labor legislation to facilitate the linking of human talent to the tourism sector. tourism training for people without formal education, Research in sustainable tourism Research in analysis of tourism environments Research in the tourist offer Research of capacities of the territories for tourism Research in innovation in tourism Research of contemporary tourism trends Research in tourism markets

**Source:** Authors.

**Results MIC - MAC (Structural analysis).** The structural analysis is one of the fundamental points of this study. This method offers the possibility of describing a system with the help of Cartesian matrices which relates all its constituent elements. One of the central objectives is to analyze the most influential and dependent variables

of the system, as well as its evolution within it. This process was carried out with the help of the Lipsor software from the Strategic Foresight toolbox (Godet, 2000, p. 70). To continue with the study of the influence of the variables, the following table is presented with the qualification of the variables, see table No 3.

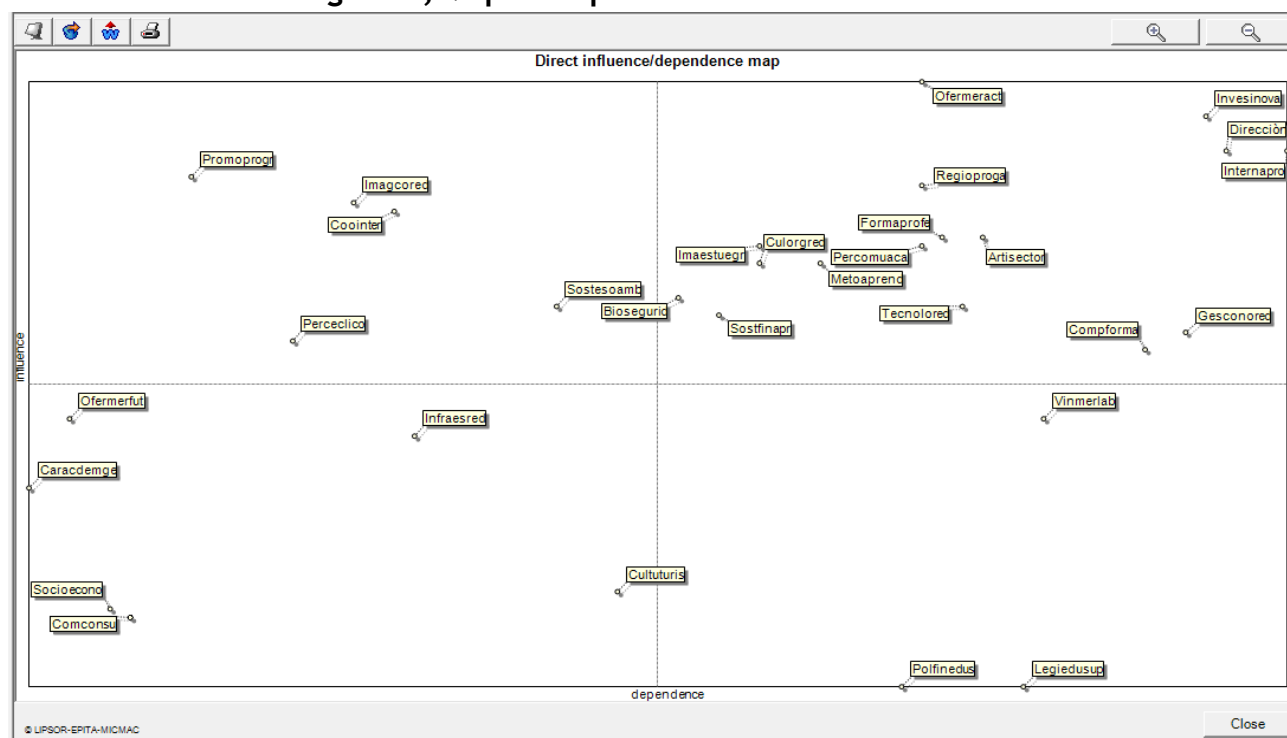
Table 3, Variable rating matrix.

	1: Polifinedus	2: Legiedusup	3: Sostfinap	4: Metoaprend	5: Formaprote	6: Artiseor	7: Ofemeract	8: Ofemerfut	9: Gesconored	10: Culorgred	11: Tecnolored	12: Infraesred	13: Invesinova	14: Cointer	15: Dirección	16: Percomuaca	17: Sostesoamb	18: Caradenge	19: Imagored	20: Internapro	21: Imaestuegr	22: Regioproga	23: Vinmerlab	24: Compforma	25: Promoprogr	26: Biosegurid	27: Comconsu	28: Perceclico	29: Cultuturis	30: Socioecono
1: Polifinedus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2: Legiedusup	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3: Sostfinap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4: Metoaprend	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5: Formaprote	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6: Artiseor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7: Ofemeract	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8: Ofemerfut	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9: Gesconored	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10: Culorgred	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11: Tecnolored	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12: Infraesred	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13: Invesinova	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14: Cointer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15: Dirección	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16: Percomuaca	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17: Sostesoamb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18: Caradenge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19: Imagored	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20: Internapro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21: Imaestuegr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22: Regioproga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23: Vinmerlab	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24: Compforma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25: Promoprogr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26: Biosegurid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27: Comconsu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28: Perceclico	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29: Cultuturis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30: Socioecono	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Source: Ownelaboration

Let us now look at the results of the direct influence of the MICMAC (see figure 3).

Figure 1, Map of dependent direct influence



Source: authors.





**Analysis of the direct influence:** As a result, the classification of the variables in the plane of direct influences was obtained as follows: The determining variables: The determining variables, are located in the upper left area, are little dependent and very motor, according to the evolution of the study, they become the brake and engine of the system, hence their name. For the system of academic training programs of tourism in institutions of higher education of the municipality of Guadalajara de Buga and its area of influence, lacks this type of variables and those that present greater denomination because they are located near this area (Promotion of programs, Corporate image and Inter-institutional cooperation), These variables are motor and determine the system, which indicates that the academic training programs of tourism in institutions of higher education of the municipality of Guadalajara de Buga and its area of influence must be very cautious both present and future with these variables since their incidence is predominant. This indicates that the promotion of the programs should be strengthened through cooperation with other entities, which could gradually result in the corporate image of the network under study.

**Table 4, Analysis of Variables.**

Variable	Context
<b>Autonomous Variables</b>	They are located in the area close to the origin, are little influential or motor and little dependent, correspond to past trends or inertia of the system, do not constitute a determining part for the future of the system.
<b>The system variables that are located in this sector</b>	Socioeconomics of Valle del Cauca and Consumer Behavior. The above indicate that these variables do not have major changes in the future and are not conditioning factors for the growth and strengthening of programs.
<b>Regulatory variables</b>	Se located in the central area of the plane, they become a stopcock to achieve compliance with the key variables and are the ones that determine the operation of the system under normal conditions. The variables that are located in this area are Social and environmental sustainability and Biosecurity, which means that the issue of the Pandemic and the new challenges of the millennium for a less polluted world, will be engines of regulation in all the activities and programs developed by the network, in addition to regulating and meeting the objectives efficiently.
<b>Objective variables</b>	They combine a reduced level of motor skills and dependence. The variables that are located in this item are: Knowledge management, Competences for training, Technology for training in competences of the Tourism sector and Financial sustainability. Although to better appreciate the above, we can explain that the last two variables are hybrid, since they have a connotation of regulatory variables due to their location in the plane. The Target variables have a degree of dependence and are the product of results to the behavior of the system.



<b>Key Variables</b>	<p>The key variables are located in the upper right area, they are also called challenge or struggle variables, they are very motor and very dependent, they disturb the normal functioning of the system and over determine the system itself, they are by nature unstable and correspond to the challenges of the system, the variables that are located in this area are: Research for innovation, Management, academic offer based on the conditions and needs of the current market, regionalization of programs. The above is understood because they are very motor variables with high degrees of dependence and uncertainty for the academic training programs of tourism in institutions of higher education of the municipality of Guadalajara de Buga and its area of influence, must focus efforts to combat these variables so that they do not generate so much present and future instability. There is a group of variables that are key, but due to their location in the quadrants they present small degrees of regulation and objective of the system, the variables are: Teacher training for teachers, Organizational Culture, Image of students and graduates, Permanence and Existence of an academic community from beginning to end of the cycles and articulation with the sector of incidence of the academic training programs of tourism in institutions of higher education of the municipality of Guadalajara de Buga and its area of influence.</p>
<b>Result variables</b>	<p>They are characterized by their low motor skills and high dependence, and are usually descriptive indicators of the evolution of the system. In the case of academic training programs in tourism in higher education institutions in the municipality of Guadalajara de Buga and its area of influence, the variables that are located in this area are: National policies for Higher Education and Higher Education Legislation. The above variables will reflect the evolution of the system. The system has a high degree of stability.</p>

Source: Authors.

**Regnier's Abacus:** For the development of this research, documentary analysis was first used, consulting texts, research and articles about the development of tourist and gastronomic programs and comprehensive training systems. Secondly, the actors of the sector were consulted, through brainstorming, with the aim of knowing the variables with which the research exercise would be developed. Thirdly, the Delphi or consultation of experts was carried out, this in order to highlight the influence of the opinion of the experts and to know some acquiescences in specific situations referring to the research topic at the regional and national level, strengthening the contributions in the construction of the results. Finally, and fourthly, Régnier's Abacus was developed, which allowed the revelation and representation of trends, as well as the perception of the actors who interact daily with the environment under study, on each of the

variables raised by brainstorming(Betancourth Guerrero & Cruz Jaramillo, 2018)(Régnier, 1989)

Table 5, Regnier's abacus showing future results.

How do you think that each of the following variables that reflect the current situation of tourism academic training programs in higher education institutions in the municipality of Guadalajara de Buga and its area of influence and that affect the future positively or negatively?

Calificación	Muy favorable o positivamente: 4	Favorable o positivamente: 4	Entre favorable y desfavorable: 3	Desfavorable o negativamente	Muy desfavorable o muy
FUTURO					
VARIABLES	A1	A2	A3	Total	
1. Políticas Nacionales para la financiación de la educación Superior.	5	5	5	15	
2. Legislación de la educación superior.	5	5	5	15	
3. Sostenibilidad Financiera de los programas de turismo.	5	5	5	15	
4. Metodología de Aprendizaje.	5	5	5	15	
5. Formación Profesional para los docentes de turismo de las instituciones de educación superior.	5	5	5	15	
6. Articulación de los programas académicos con el sector turístico.	4	4	4	12	
7. Oferta académica basada en las condiciones y necesidades del mercado actual.	2	2	2	6	
8. Oferta académica basada en las condiciones y necesidades del mercado futuro.	5	5	5	15	
9. Gestión del Conocimiento para los programas de turismo.	5	5	5	15	
10. Cultura organizacional de las instituciones de educación superior que ofertan los programas turísticos.	4	4	4	12	
11. Tecnología para la formación en competencias del sector turístico,gastronómico entre otros.	5	5	5	15	
12. Infraestructura y planta física de las instituciones de educación superior para el desarrollo de los programas turísticos.	2	2	2	6	
13. Investigación para la innovación de los programas de turismo.	5	5	5	15	
14. Cooperación interinstitucional.	3	3	3	9	
15. Dirección.	5	5	5	15	
16. Existencia y permanencia de una comunidad académica de principio a fin de los programas en las instituciones de educación superior.	3	3	3	9	
17. Sostenibilidad social y ambiental.	5	5	5	15	
18. Caracterización de la demanda generacional	3	3	3	9	
19. Imagen corporativa de las instituciones de educación superior que ofertan los programas turísticos.	4	4	4	12	
20. Internacionalización de los programas de turismo.	5	5	5	15	
21. Imagen de los estudiantes y egresados de los programas de turísticos en el mercados laboral.	5	5	5	15	
22. Regionalización de la oferta académica de los programas de turismo.	3	3	3	9	
23. Vinculación al mercado laboral de los estudiantes de los programas turísticos.	3	3	3	9	
24. Competencias para la formación de los programas en turismo.	3	3	3	9	
25. Promoción de la oferta académica de los programas de turismo.	4	4	4	12	
26. Bioseguridad para evitar el impacto de enfermedades o transmisiones de virus como el Covid 19.	5	5	5	15	
27. Comportamiento del consumidor, análisis de la demanda de programas turísticos.	3	3	3	9	
28. Percepción del cliente y el consumidor	4	4	4	12	
29. Cultura para el turismo en el Valle del Cauca.	3	3	3	9	
30. Socio economía del Valle del Cauca.	2	2	2	6	

Source: authors.

Table 6

Hierarchy from highest to lowest:

Variable	Result
Financial Sustainability of the program	80
Learning Methodology.	70
Technology for training in skills in the tourism sector.	40
Organizational culture.	30
Teacher training for tourism teachers.	30
Address	25
Internationalization of tourism programs	15
Research for the innovation of tourism programs.	10
Linkage to the labour market	5
Image of students and graduates of tourism programs	-5
Academic offer based on the conditions and needs of the future market.	-10
Promotion of the academic offer of tourism programs	-10
Social and environmental responsibility.	-15
Regionalization of the institutional academic offer.	-15
Characterization of generational demand	-20
Academic offer based on the conditions and needs of the current market.	-30
Customer and consumer perception	-40
Socio-economy of Valle del Cauca.	-40
Inter-institutional cooperation.	-50
Infrastructure and physical plant.	-70

**Source:** Authors.

**Figure 4**  
Results of Regnier's Abacus.



**Source:** Authors.

The trend analysis will be addressed with experts to formulate the proposal of the gap matrix.

### Analysis of influence and behavior of the variables:

As shown in the graph, the rating of the survey by key actors and experts shows a high degree of optimism, an aspect that is very favorable for tourism academic training programs in higher education institutions in the municipality of Guadalajara de Buga



and its area of influence, since a positive perception is a relevant factor that facilitates managerial decision making, Also because it involves the interaction of other aspects such as: experience, intuition, selective perception, thinking, mental filters, beliefs, expectations and needs among other factors. Invalid specified font.

According to Regnier's Abaco rating, it is found that, in the prioritization of the variables, the variable with the greatest weight is V3 (Financial Sustainability), this variable represents greater uncertainty, although it should be noted that the previous variable acts in a dependent manner to other variables. The second most representative variable for the actors and experts in the prioritization is the V4 (Learning Methodology), without a doubt this variable is fundamental for the construction of the results proposed in the programs since the competences that the students will acquire depend on it and therefore the way they will stand out in the labor market of influence of the programs. Below, we can find the Variables V11 (Technology for training in skills in the tourism and gastronomic sector), this variable is fundamental for the development of academic practices and ensure the knowledge, skills and abilities demanded by the sector of influence. Together with the previous ones, the actors rated the following variables as a priority in a positive way and in ascending order as follows: V10 (Organizational Culture), V15 (Management), V13 (Research for Innovation of the programs), V17 (Social and Environmental Sustainability) In the variables mentioned above, it should be noted that a high reference is made in a pragmatic way to the Organizational climate that is very strong in the academic training programs of tourism in institutions of higher education of the municipality of Guadalajara de Buga and its area of influence, which is made in accompaniment by public entities and the internal self-management of the institutions allow to generate a Constant feedback. In addition, research is seen as a factor of change as well as environmental processes, which will undoubtedly open the doors to new challenges and transformations of the programs (Garcia, 2016).

The variables viewed negatively for the system under study, but that show a strong impact on the organizations are: V12 (Infrastructure and Physical Plant), the previous variable, although it is qualified with low priority because the key actors agree that this is not a factor of much concern, since tourism programs, have an updated infrastructure, and appropriate to the needs of the environment. Another variable perceived as negative is V14 (Interinstitutional Cooperation), for this variable the actors refer to the support received from public entities such as mayors, governorates among others, which have a management through the Institutional Directorate and which the representation is very positive, generating little uncertainty. The following variables of negative priority and in ascending order stand out: V 28 (Customer and consumer perception), V2 6 (Biosecurity), V7 (Academic offer based on current market conditions), V21 (Image of students and graduates), V1 6 (Existence and permanence of a community from beginning to end of moments), V2 3 (Linkage to the labour market)

and V8 (Academic offer based on future market conditions). With the variables previously raised, it should be noted that they correspond to the external organizational environment and that they do not currently represent a very marked threat to the organizations, since although they have a direct relationship with the market or demand, this is very motor within the system, a situation that must be approached with caution since in the future it can cause uncertainty and substantial changes in the structure and way in which the The system must respond to the force they exert on it. It is very likely that the actors do not see a very significant threat currently since for each of the variables prioritized as negatively there could be a moderate control over them, however, it is necessary to analyze them from each of the prospective contexts addressed in the tools presented in this study. (Mintzberg, Ahlstrand, & Lampel, Safari to Strategy, 2008)

**IGO (importance - governance).** Table 11 will then be shown, in which the actors rated the importance and governance for each variable. It was rated on a scale of 1 - 5 where 1 is the lowest value and 5 the highest value. The trend analysis will be addressed with experts to formulate the proposal of the gap matrix. Below is the rating table of results of Importance and Governance (IGO), made by the experts, see table No 7

**Table 7 Qualification of the variables**

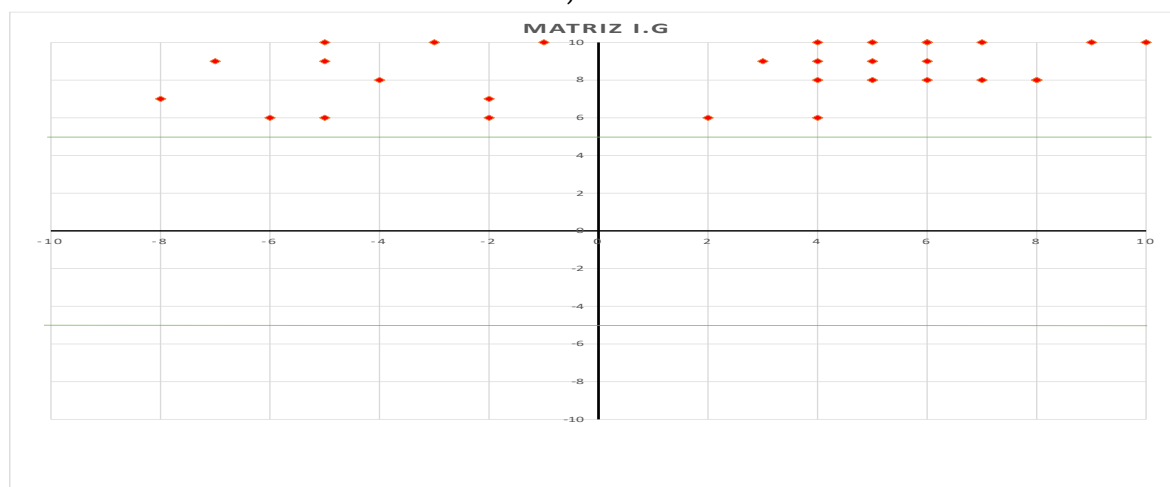
Calificación	GOBERNABILIDAD	IMPORTANCIA
VARIABLES	X	Y
1. Políticas Nacionales para la financiación de la educación Superior.	-2	6
2. Legislación de la educación superior.	-4	8
3. Sostenibilidad Financiera de los programas de turismo	6	10
4. Metodología de Aprendizaje.	9	10
5. Formación Profesorado para los docentes de turismo de las instituciones de educación superior	7	8
6. Articulación de los programas académicos con el sector turístico.	5	9
7. Oferta académica basada en las condiciones y necesidades del mercado actual.	-3	10
8. Oferta académica basada en las condiciones y necesidades del mercado futuro.	-7	9
9. Gestión del Conocimiento para los programas de turismo.	4	10
10. Cultura organizacional de las instituciones de educación superior que ofertan los programas turísticos.	5	8
11. Tecnología para la formación en competencias del sector turístico y gastronómico entre otros.	2	6
12. Infraestructura y planta física de las instituciones de educación superior para el desarrollo de los programas turísticos.	8	8
13. Investigación para la innovación de los programas de turismo.	7	10
14. Cooperación interinstitucional.	-5	9
15. Dirección.	10	10
16. Existencia y permanencia de una comunidad académica de principio a fin de los programas en las instituciones de educación superior.	5	10
17. Sostenibilidad Social y Ambiental.	4	9
18. Caracterización de la demanda generacional	4	6
19. Imagen Corporativa de las instituciones de educación superior que ofertan los programas turísticos.	-8	7
20. Internacionalización de los programas de turismo.	-5	10
21. Imagen de los estudiantes y egresados de los programas turísticos en el mercado laboral.	6	8
22. Regionalización de la oferta académica de los programas de turismo.	3	9
23. Vinculación al mercado laboral de los estudiantes de los programas turísticos.	8	8
24. Competencias para la formación de los programas turísticos.	4	8
25. Promoción de la oferta académica de los programas de turismo.	-5	6
26. Bioseguridad para evitar el impacto de enfermedades o transmisiones de virus como el Covid 19..	6	10
27. Comportamiento del consumidor, análisis de la demanda de programas.	-1	10
28. Percepción del cliente y el consumidor	6	9
29. Cultura para el turismo en el Valle del Cauca	-6	6
30. Socio economía del Valle del Cauca.	-2	7

Source: Authors.





Chart 5, Matrix I.GO



Source: Authors.

### IGO analysis:

After analyzing the MICMAC, where the influence and motor skills of the variables were detected, based on the variables already identified, the next step is to determine the degree of relevance and in turn the control exercised by the Organization over the variables. This facilitates the construction process of the scenarios and the strategic formulas for their development.

According to the analysis carried out in the IGO matrix (Importance and Governance), where it is on the X axis (Weighting of Governance) and on the Y axis (Weighting of Importance). As he emphasizes that structural analysis is based on the theory of systems and uses matrix calculation tools, in addition to the relationship between the elements is essential to understand the evolution of the system, therefore a relationship of two factors of relative influence is proposed as the importance of the variables for the network and the control that it can exercise over them. (Godet, 1999)

A very high number of variables, eleven (11) to specify are in the range of being very important, but at the same time very governable, since the nature of the academic training programs of tourism in institutions of higher education of the municipality of Guadalajara de Buga and its area of influence, shows that a very good part of its academic and operational potential depends on its own administrative model and the decisions that assume in this regard which are aligned and articulated with the Planis for the development of the educational institutions under study. The variables found in this area are: Management, Learning Methodology, Research for the Development of programs, Financial Sustainability of programs, Competencies for Training, Biosecurity, Infrastructure and Physical Plant, Teacher Training, Internationalization of Programs, Articulation of academic programs with the advocacy sector. The above variables correspond to variables of the internal structure and are decisive for the system to achieve a significant development in the formation of future scenarios (Cruz & Girón, 2017).



Another group of variables that are very important for the system, but present the condition of being very uncontrollable we find five variables (5): Academic Offer Based on the Conditions and Needs of the Future Market, Characterization of Demand, Consumer Behavior, Corporate Image, Interinstitutional Cooperation. The characteristic of the above variables is that they are associated with the market and its behavior, which indicates that, although the market is very changeable, it is extremely necessary to know and interpret it in order to have greater control over the system and contribute to the development of betting scenarios, counteracting the forces that can generate disadvantage and threat in the future. The rest of the variables are moderately important and moderately controllable, which does not pose a strong threat to the system. However, it is necessary to monitor them, since the environment can change abruptly generating a transcendence on them (Ohmae, *The Mind of the Strategist*, 1985).



**Table 8**  
**Scenarios**

Scenario	Context
<b>Optimistic scenario</b>	<p>We are in 2030, 10 years after the directors of the higher education educational institutions of Guadalajara de Buga and its area of influence, meet to evaluate the situation of the tourism academic training programs to implement the <b>strategic prospective plan and organizational intelligence for tourism programs in the horizon 2020 - 2030</b>.</p> <p>Today we see that the academic training programs of tourism in institutions of higher education of the municipality of Guadalajara de Buga and its area of influence, have achieved an excellent positioning in the market thanks to the fact that great developments have been made in the subject of infrastructure of physical plant and equipment and research, especially the market has been studied, characterizing consumer behavior to strengthen the academic offer and thus meet the needs of the environment and the sector. At the same time there is the renewal and diversification of services, we already have more programs of the technical, technological and professional levels with their respective qualified records updated. The graduates of the programs belonging to the programs under study have highly developed skills in applied research, due to the work developed in the subjects or modules and research laboratories. In addition to being very competitive in the development of enterprises, which several have benefits granted by government programs and others of a personal nature and that contribute to the strengthening and development of the tourism and gastronomic sector among others at the local, regional and national level. It is also worth mentioning the process of regionalization and internationalization that several programs offered by some higher education institutions have, which are highly qualified in the regions or places where the programs are offered. This is achieved by the good comprehensive planning of the programs and their alternate control and monitoring processes, organizational culture and a very positive work environment. As for the issue of quality that manage the programs, they allow you to be competitive with the price and therefore to an expansion of programs nationally and internationally and graduate programs (Johnson, 2001)</p>



	<p>This process that started 10 years ago, allowed us to have many investments, work very hard for a pleasant organizational climate generating a culture of cordiality. In addition, the institutions have been recognized for a high quality of processes to reduce the environmental impact caused by manufacturing processes.</p> <p>Finally, a lot of work had to be done on the issue of training in order to have the qualified and competent personnel that allowed us to face new challenges demanded by a global market.</p>
<b>Pessimistic scenario</b>	<p>The main objective of this study was the elaboration of prospective development scenarios for tourism academic training programs in higher education institutions of the municipality of Guadalajara de Buga and its area of influence for the year 2030, which facilitate strategic planning and enable the generation of a reference framework for tourism program development policies (Strickland &amp; Thompson, 2004).</p> <p>In the pessimistic scenario, it would mean that tourism programs will face challenges that are framed and that depend on the maturity and strategic planning that the institutions have developed since their creation, since many of the variables analyzed depend on the management that the management can develop, in addition to its continuity. If the Management is not clear that the adoption of a strategic plan as an internal policy of the organization is a key factor, competitiveness and productivity will be affected because there would be no stability and reliability in the processes, the response capacity and quality would be shocked by the lack of standardization and normalization of internal processes both administrative and academic and that are direct and indirectly related to tourism programs offered by higher education institutions.</p> <p>Another challenge it faces is the shortage of human talent with the specialized skills to put into practice the educational models of the institutions, self-train and develop research that contributes to academic improvement and the strengthening of more research groups that work in articulated lines. In addition, difficulty through the groups and seedbeds to carry out activities required by the projects that are generated by Minciencias, productive sector and within the institution among others. The above added to several factors such as the lack and strength in strategic alliances (State / Productive sectors / Community / Knowledge Society), so that the network has the coverage and quality of physical infrastructure and services for the promotion and generation of knowledge that allows the optimal development of programs, lines of research and agreement of working groups with the productive sector, in addition to the due relationship and integration between each of the knowledge networks that exist in the institution.</p>



	<p>The academic training programs of tourism in institutions of higher education of the municipality of Guadalajara de Buga and its area of influence, if it does not have a strategic plan, variables such as technology, quality and financing will be strongly affected, since the organization must consolidate in addition to an economic robustness through strategic alliances, the adoption of management systems that allow it to measure, Control and continuously improve its processes and be able to respond more and more to the demands of new projects that are generated both locally, regionally, nationally and internationally.</p> <p>The programs should not neglect the variables of Organizational Culture and work environment, because it can become a potential factor of conflict internally. The institutions must guarantee the working conditions, infrastructure, security and availability of sufficient personnel so that the perception of climate does not affect the performance and productivity of the personnel in charge.</p> <p>In conclusion, if there is no strategic direction plan on the part of the institutions, the projection that as an organization wants to achieve will be permeated unfavorably, since the opportunity to give a specific treatment and to be able to work on its future projection is lost in order to consolidate itself as institutions that offer high quality programs and are regionalized and internationalized, Due to the fact that an exhaustive control and monitoring of the designed plan is carried out, to achieve the formulated bet, since at present its response capacity does not respond with the agility that is required, some processes are not standardized, there is a lack of greater control and monitoring to point to continuous improvement.</p>
<b>Trend scenario</b>	<p>. We are in 2030, the academic training programs of tourism in institutions of higher education of the municipality of Guadalajara de Buga and its area of influence, have been characterized because since its creation, it has worked hard in the qualification and positioning of the programs, achieving since 2021, an important boom in its structure, with the formulation of a strategic prospective plan and organizational intelligence, which has allowed its growth and development in the last 10 years. (Orozco, 2009)</p> <p>Tourism programs have managed to overcome great difficulties that have arisen over time, the most relevant being those concerning personnel. Such as the lack of specialized personnel for the pedagogical practice and development of research that bring more resources and allow its recognition in the region, in addition to strategic alliances with other public and private institutions that allow the development of research, projects among which are the process of regionalization and internationalization. The above brings an impact on the</p>



corporate image and, although it achieves a positioning, there are several drawbacks due to the fact that the programs mentioned are not strengthened and the control and monitoring of the quality of the offer of the same is put at risk. After achieving a balance in the aforementioned aspect, the institutions had to avoid the rotation of personnel, already trained and trained, this due to the high growth of the offer in the sector, a situation that, until today, has forced the institutions to work their Organizational Culture, Social, Environmental Impact, Culture and Work Environment, in order to create greater commitment in its employees (teachers and administrators), and that they feel more comfortable with their work. Institutions have been implementing more comprehensive strategies such as better salaries, integrations, training according to profiles, knowledge management in order to capture best practices and processes. (Sanabria, 2005)

Another factor that the management has had as a challenge and that has marked a differentiation with the competition is the price of the programs and the amount of student enrollment to the programs offered by higher education institutions, the quality, the technology used for academic development, this as a result of great efforts to strengthen and consolidate its research process, always looking for the purpose of this is Innovation. It has not been easy to change the paradigm for tourism programs, since the financing has been very little, it has worked through alliances, advertising focused on the market segment with very little forcefulness and opening to new markets cautiously, this last factor being part of the subsequent stage to strengthen, to meet the conditions of these markets (regionalization and internationalization of programs). and projecting the programs, for their expansion with adequate infrastructure to cover an important portion of the international demand, which implies a restructuring or new implementation of its strategic planning for the next 10 years, 2030-2040.





<b>Betting scenario</b>	<p>for the academic training programs of tourism in institutions of higher education of the municipality of Guadalajara de Buga and its area of influence horizon 2030. With the help of the scenarios described above, the most relevant variables are extracted to carry out the betting scenario, thanks to this we can locate ourselves in a present raised by the variables and analyze how it would behave in the future.</p> <p>In the center of Valle del Cauca are located the institutions of higher education that offer tourism programs, the vast majority in the municipality of Guadalajara de Buga. The municipality of Guadalajara de Buga, has become of great importance and support for large, medium and small companies in the Valley due to its proximity to the port of Buenaventura and the capital Santiago de Cali, being an important factor to meet the different populations of students and future demand, hence the importance of increasing technology and research in the different administrative and academic processes, to be able to offer programs oriented to tourism, of excellent quality and adjusted to the needs of the market, this last aspect being the product of market research and characterization of the same, in order to better focus the proposal of offer and promotion to future learners. The prospective study of tourism programs and thinking about the horizon of 2030, considers several possibilities in the present to obtain improvements and maintain in the future, conducting a study of the environment by the research groups of the different institutions of higher education, specialized teachers and / or research seedbeds, with the prospective and strategic study seeks to contribute to the strengthening and organizational growth, in addition to the correct and due implementation of Knowledge Management in order to guarantee that knowledge passes from the tacit to the explicit in continuous development, seeking to strengthen the processes of knowledge and doing, where a systematic and multidisciplinary approach will be used to analyze the different internal and external variables. The scenario Bet for the year 2030, is aimed at good training in human capital, (teachers, administrative staff and students), with good technical-technological training, supported by institutions and entities with which to create strategic alliances. The tourism programs, bets on human capital based on technical knowledge, taking advantage of present and future technologies, acquiring new work techniques to be competitive in the market and the relevant and timely updating of qualified records, Syllabus and modules both face-to-face and virtualizable and quality processes among others. Another aspect that has been aligned and strengthened is the power to increase strategic alliances of both capital and knowledge (between whom), in order to serve new markets and be able to meet more needs. One</p>
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of the pillars of this study is to project tourism programs, to a prominent position in the tourism and gastronomic sector for the 2030 horizon in the Central and northern Vallecaucana region. This being one of the inflections of the strategic prospective study that lead to the discernment of the current and future conditions of the environment in order to propose a strategic direction that allows to consolidate the present strengths and give a guideline in the problems both current and those that constitute a subsequent threat to provide greater certainty in the construction of new opportunities for academic training programs of tourism in institutions of higher education of the municipality of Guadalajara de Buga and its area of influence.

Source: Authors.



## CONCLUSIONS

According to the opinion of the experts (Delphi), strategic guidelines should be specified, which incorporate programs and projects that allow the educational institutions of Guadalajara de Buga and its area of influence to improve their competitiveness. These programs and projects should be oriented to constant training, strengthen research lines, entrepreneurship in the tourism sector, market studies and strengthen strategic alliances between both public and private entities. According to Delphi, the experts consulted estimate that the most significant perspective that impacts productivity, quality and innovation is investment in knowledge and that this generates research developments that lead to improving processes, knowing the demand. It is also important to note that this would only be possible if the institutions develop a strategic plan that allows them to implement the strategies to achieve the bet scenario formulated in this research.

## BIBLIOGRAPHY

- [1] Almagro Pedreño, J. (2014). "The Intelligence Strategy". *Bayes School Publications*.
- [2] Ansoff, I. (1965). *The Corporate Estrategy*. New York, USA: Mc Graw Hill.
- [3] Astigarraga, E. (2016). Strategic foresight: origins, key concepts and introduction to your practice. *ICAP - Central American Journal of Public Administration*.
- [4] Baena, G. (2015). Strategic prospective planning. *Theory, methodology and good practices in Latin America*. Mexico: metadata.
- [5] Barberi Masini, E. (1993). *Why reflect on the future*. London: Grey Seal Books.
- [6] Batancourt, B. (2015). Class Notes. Course Forecasting and Strategic Thinking, Master in Administration. Universidad del Valle.
- [7] Bentancourth Guerrero, B., & Londoño Hernández, H. (2020). Future scenarios of the tourism sector of Seville Valle del CaucaColombia horizon 2020-2030. *XIV International Virtual Congress Tourism and Development*.
- [8] Betancourt, B. (2011). *Organizational Environment - Analysis and diagnosis*. Calí: Editorial Program - Universidad del Valle.
- [9] Betancourt, B. (2013). Strategic Management of Sports Organizations. editorial program (National School of Sport- University Institution).
- [10] Betancourt, B. (2014). *Sector Analysis and Competitiveness*. Bogotá, Colombia: ECOE Ediciones.
- [11] Betancourth Guerrero, B., & Cruz Jaramillo, J. (2018). Future scenarios of the metalworking sector of the municipality of Tuluà and its area of influence in the horizon 2018-2028. *Technical Informant*.
- [12] ECLAC. (2016). *Planning and foresight for the construction of the future in Latin America and the Caribbean*. Santiago, Chile: Copyright © United Nations.



- [13] Cruz, J., & Girón, M. (2017). Formulation of the Prospective and Strategic Plan of the company INGESOLMEC in the horizon 2017 - 2025. Tuluá: Master's Project, Universidad del Valle - Tuluá Library.
- [14] David, F. R. (2003). *Concepts of Strategic Management* (Ninth ed.). Naucalpan de Juárez, Mexico: Pearson Education.
- [15] Gándara, G., & Osorio, F. (2017). *Prospective Methods - Manual for the study and construction of the future*. Mexico: PAIDÓS.
- [16] Garcia, A. (2016). *Creation, conversion, facilitation and spaces of knowledge: the contributions of Ikujiro Nonaka to organizational theory. Dialogues in the Knowledge Society*. Retrieved from <https://www.redalyc.org/articulo.oa?id=457645340006>
- [17] Government of Valle del Cauca. (2016). *Management Report*. Cali.
- [18] Government of Clombia. (2019). *Mission of the Wise*. Republic of Colombia.
- [19] Godet. (2000). *The Strategic Foresight Toolbox*. Paris: Librairie des Arts et Métiers.
- [20] Godet, M. (1993). From anticipation to action, Manual of foresight and strategy. *Strategy and Competitive Management*, 187. Paris: Boixareu publishers.
- [21] Godet, M. (1993). From anticipation to action (Manual of foresight and strategy). Barcelona, Spain: MARCOMBO, S.A.
- [22] Godet, M. (1999). *De la Anticiación a la Acción*. Mexico: Algaomega.
- [23] Godet, M., & Durance, P. (2011). *Strategic foresight for companies and territories*. UNESCO: DUNOD.
- [24] Haber see, A., & Más Basnuevo, A. (2013). Organizational Intelligence : Concepts, models and methodologies. *Electronic Journal of Librarianship and Information Science*.
- [25] Johnson, S. K. (2001). *Strategic direction*. 5 Ed. Madrid, Spain: PRENTICE HALL.
- [26] Medina Vàsquez , J., Becerra , S., & Castaño, P. (2014). *Foresight and public policy for structural change in Latin America and the Caribbean*. Santiago de Chile: ECLAC - United Nations.
- [27] Medina, J., & Ortégón, E. (2006). Manual of foresight and strategic decision. *Theoretical bases and instruments for Latin America and the Caribbean*. Santiago de Chile: UNITED NATIONS - ECLAC.
- [28] Michael E, P. (1,980). *Competitive Strategy* . Spain: PIRÀMIDE.
- [29] Mintzberg, H. (1999). *SAFARI TO STRATEGY*. Buenos Aires - Argentina: Ediciones Granica S.A.
- [30] Mintzberg, H., Ahlstrand, B., & Lampel, J. (2008). *Safari to strategy*. Buenos Aires., Argentina: Ediciones Granica S.A.
- [31] Mojica, F. (2005). *Building the future. Concept and model of strategic, territorial and technological foresight*. Bogotá: U. Externado de Colombia.



- [32] Morresey, G. L. (1997). *Strategic Thinking*. Mexico: PRENTICE HALL HISPANOAMERICANA S.A.
- [33] Ohmae, K. (1985). *The mind of the Strategist*. Spain: MCGRAW-HILL.
- [34] International Labour Organization - ILO. (2017). Analysis of the Tourism Value Chain in Cali Colombia. Colombia: Copyright © International Labour Organization.
- [35] Orozco, S. E. (2009). Business intelligence. In: Business intelligence: What and how. Havana, Institute of Scientific and Technological Information.
- [36] Pallares, Z. (2004). *Business associativity - Strategy for competitiveness*. Bogotá - Colombia: Fondo editorial Nueva Empresa.
- [37] Peter, B., & Andy, H. (2012). *Teaching about the future*. Estados Unidos., España : Palgrave y MacMillan.
- [38] Porter, M. (1980). *Competitive Strategy*. Madrid, Spain: Pirámide.
- [39] Porter, M. (1999). *Be competitive. New contributions and conclusions*. Bilbao, Spain: Ediciones Deusto S.A.
- [40] Ramírez Plazas, E., & Pàramo Morales, D. (2009). *Methodology and Techniques of Business Research*. (second ed.). Neiva - Colombia: Universidad Surcolombiana.
- [41] Régnier, F. (1989). Announce the color. *For a nuanced approach to consensus*. Institute of Qualitative Metrology.
- [42] Saavedra , M. E., & Saavedra , M. L. (2014). The SME as a generator of employment in Mexico. *Clio America*.
- [43] Sampieri, R. H. (2014). Research methodology. 6 Ed. Mexico City: McGraw Hill - Education.
- [44] Sanabria, R. (2005). *Formulation and Strategic Thinking*. Bogotá., Colombia.: Planeta.
- [45] Steiner, G. A. (1998). *What every Director should know*. Mexico: CECSA.
- [46] Strickland, & Thompson, A. (2004). Strategic Management: Texts and cases. 13. McGraw Hill.
- [47] Tofail, S., Koumoulos, E., Bandyopadhyay, A., Bose, S., O'Donoghue, L., & Charitidis, C. (2018). Additive manufacturing: scientific and technological challenges, market uptake and opportunities. *Materials today*, 21, 22 a 37.
- [48] UNESCO. (2015). *Unesco science report: Towards 2030*. Paris, FR: Unesco.
- [49] Vivas, R. (2000). Management and Strategic Thinking. *Management Magazine*.
- [50] Wells , D. (2008). *Bussines Anallytics - Getting the point*. Obtenido de <http://b-eye-network.com/view/7133>
- [51] World Economic Forum. (2016). *The future of jobs*. Davos, SW: WEF.