

## Competitiveness Modelling In The Hotel Sector In Boyacá, Colombia

Pedro Ignacio Moya Espinosa<sup>1</sup>

### Abstract

*The purpose of this research is to analyze competitiveness in the hotel sector in Boyacá, with the aim of providing an effective tool for its promotion and strengthening. The research was oriented towards a causal approach, supported by quantitative methods, specifically modelling with Smart PLS (Partial Least Squares) - SEM (Structural Equation Models). Two instruments, each with 21 items, were administered to a population of 55 managers through a census, and to 384 guests through quota sampling. The results allowed validating the hypotheses and determining the impact of the independent variables (Internal and External Factors), as well as the mediating variables, on the dependent variable, i.e. competitiveness. The proposed model exhibited strong internal validity and offers favourable conditions for its application in other contexts and sectors. This research contributes significantly to the understanding of the factors that impact competitiveness in the hotel sector, providing a solid basis for future studies and, at the same time, offers practical guidelines for strengthening competitiveness in the hotel sector.*

**Keywords:** *Competitiveness of the Hotel Sector, Competitiveness Model, Competitiveness of Boyacá, Structural Equations.*

### Introduction

Competitiveness is an issue of growing importance in various economic spheres, at international, national, regional and local levels. This emphasis is particularly significant in the context of the hotel sector in the department of Boyacá, given the considerable influx of tourists, both national and foreign, who choose this region as a destination, motivated by its distinctive characteristics and attractions. This phenomenon is in line with the reflections of Zhan et al., (2024), who underline the relevance of identifying competitive tourist destinations, assigning hotels a role of utmost importance in this context.

According to information provided by the Hotel and Tourism Association COTELCO (2022), the hotel sector continues to experience sustained growth after the decline caused by the Covid-19 pandemic in 2020. Over the course of 2022, the hotel occupancy rate reached 60.2%, evidencing an increase of 19.7% compared to 2021 and an increase of 4.89% compared to 2019. This segment of the economy plays a crucial role in generating employment for approximately 30% of the population, which translates into employment for more than six million people nationwide.

---

<sup>1</sup> Director Grupo de Investigación Emprender - Escuela Administración Turística Hotelera, Universidad Pedagógica y Tecnológica de Colombia.

Considering the implications of globalization and the inclusion of Colombia in the Organisation for Economic Co-operation and Development (OECD) on 28 April 2020, together with other phenomena that promote tourism activity, it is necessary to reorganize and strengthen the hotel sector. This is essential to face the challenges of an increasingly demanding market.

The hotel sector in Boyacá faces increasing competition at national and global level, accentuated by emerging events such as the Covid-19 pandemic and the effects of globalization, in contrast to the high expectations and preferences of guests. These circumstances have led to rapid change, uncertainty and ambiguity, justifying the need to take a close look at the hotel sector. In this context, the central objective of the research that gave rise to this article is to determine the competitiveness of the hotel sector in Boyacá by means of a model that provides a tool for its promotion and strengthening. The main question guiding the study is: How can a model of competitiveness be developed for the hotel sector in Boyacá? This question is broken down into the following sub-questions: What are the variables that influence the competitiveness of the hotel sector in the department of Boyacá? How are these variables related to generate competitiveness in the hotel sector?

The study finds its justification in the creation of an unpublished predictive model, which is unique and arises from gaps in the existing literature. It is highlighted that, although tourism has been recurrently studied, the hotel industry has received less attention, to the point of not having specific models to determine the competitiveness of hotels or the hotel sector in general. In this context, the proposed model has been conceived considering these limitations and has integrated the realities and characteristics of hotels, the participation of social actors and the interest of the department's entrepreneurs in improving their conditions in the face of emerging situations.

Further justification is based on the fact that hotel competitiveness is significantly influenced by a combination of internal and external factors, as García et al. (2023) point out, it is important to analyze the distinctive skills that drive business success in hotels, considering both tangible and intangible resources, in order to achieve a competitive advantage. Factors such as the quality of facilities and services, among others, play a prominent role in this context.

A similar approach is presented in the research of Chang and Chiu (2023), who propose a model that incorporates service design as a key element to generate positive guest experiences. This approach focuses on optimizing hotel operational processes in order to achieve a competitive position.

The proposed competitiveness model incorporated the recognition of the specific realities that characterize hotel organizations, the review of relevant literature and the participation of the different social actors that make up the sector in the department. These actors include representatives from academia, government, business, trade unions and the community in general. This comprehensive approach was designed to effectively address the needs expressed by entrepreneurs, enabling them to react positively to emerging situations. In this context, the nature of the model's approach was causal, i.e. it sought to identify the impact of the independent variables on the dependent variable, which in this case is the competitiveness of the hotel sector in the department.

## **Literature review**

This section aims to contextualize the competitiveness of the hotel sector at the global level with specific applications at the local level, seeking to improve the understanding of the subject. In order to contribute to existing knowledge, a detailed review was carried out in various

indexing platforms, including Science Direct, Scopus, Web of Science, among others. The review of the research literature was directed through an equation with Boolean operators, focusing on keywords in combinations such as: (hotels AND competitiveness), (hotels OR competitiveness), (competitiveness model), (competitiveness AND model), (competitiveness OR model). This methodological approach sought to ensure the completeness and relevance of the literature reviewed in order to provide a solid foundation for the research.

**Competitiveness:** According to the research perspective outlined in the general analytical model of this paper, competitiveness is conceptualized as the ability of hotel establishments to merge value-added services based on their internal, external and management factors.

The aforementioned concept is based on a review that situates competitiveness in the framework proposed by prominent economists such as Adam Smith, David Ricardo and John Stuart Mill, considered pioneers in the analysis of this phenomenon. These scholars addressed absolute advantages, overcoming the limitations inherent in mercantilism and establishing the foundations of the argument for free trade. Their approach demonstrated that trade between nations facilitates the increase of individual countries' wealth by exploiting the principle of division of labour.

In his "Principles of Political Economy and Taxation" (1817), David Ricardo addresses the central core of political economy, specifically the laws governing distribution, and places a prominent emphasis on labour-value. His contribution relates mainly to the theory of value, in which he postulates that the relative value of goods within a country differs from that which governs the relative value of products exchanged between two or more nations.

On the other hand, John Stuart Mill deals with the theory of international values, focusing his attention on the relative cost associated with the exchange of goods. This aspect is integrated into the realm of labour and production, emphasizing productive efficiency where, with a constant amount of labour, superior results are achieved through specialization. This approach assumes that one country can produce a unit of some good with a smaller amount of labour than another country can produce the same good. Consequently, the one that produces with a smaller amount of labour exhibits an absolute advantage.

In his 1979 paper, Krugman addresses competitiveness in the context of international trade, exploring various existing theories in the field. From Krugman's perspective, his approach focuses on competitive behaviour, improving on some of the approaches of prominent figures such as Smith and Ricardo, among others. Krugman proposes the theory of the new economic geography, which examines competitiveness from the perspective of economies of scale. In this theory, higher production volumes lead to lower costs, which facilitates product supply and benefits both consumers and large-scale production, characterized by reduced costs and diversified supply.

Chesnais (1986) argues that the international competitiveness of an economy is based on the competitiveness of the firms that operate and export from its territory, demonstrating a willingness to compete. The vitality of these firms, as well as their capacity to invest and innovate, are crucial determinants of their competitiveness. This competitive capacity is influenced by structural characteristics such as the size of the domestic market, inter-sectoral relationships, the level of concentration in various industries, the connections between firms beyond the market, the scientific and technological infrastructure, the rate of savings and investment, the system of subsidies and revenue transparency, the financing system, the level of education and the skills of the labour force. Ultimately, the international competitiveness of an economy is shaped by the ability of firms to innovate, develop and effectively appropriate foreign technologies.

Aznar et al., (2016) postulate that competitiveness lies in the certification of quality by organizations and the hotel sector, thus allowing them to meet market requirements and keep pace with developments at a general level. On the other hand, the Centro de Pensamiento Turístico de Colombia (CPTC) in 2022 defines tourism competitiveness as the ability of a destination to sustainably integrate into markets. This is achieved through the articulation of public and private actors, together with the host community, and the creation of high quality, innovative and attractive differentiated products. These products seek to generate positive experiences and high added value for both the tourist and the visitor.

According to Lilik (2009), competitiveness encompasses both firms and individuals at the micro, mezzo-economic or macro levels, in various sectors and at either the national or international level. Bernal et al. (2012) argue that competitiveness is closely linked to the ability to maintain or increase market share, while achieving a sustained increase in profitability. From Santis-Puche's (2021) perspective, competitiveness is built on human talent and innovation, followed by marketing tools, management and an emphasis on quality.

Arredondo et al., (2016) argue that competitiveness is intrinsically linked to innovation, supported by high-level human resources and effective collaboration among stakeholders. López et al. (2022) argue that the competitive advantages of hotels are closely linked to aspects such as sustainability and the efficient management of resources and capabilities.

In this context, competitive advantages are directly related to the tourism diagnosis, which, according to León et al. (2022), represents the planning phase where the situation of a destination at a specific time is established and evaluated. Subsequently, the diagnosis becomes a fundamental tool for the effective management of destinations, providing crucial information for the design of strategies that optimize resources, activities and take advantage of the particularities of the territory.

### **Models of competitiveness.**

In order to deepen the understanding of competitiveness as an object of study, it is necessary to address the concept of model. In this context, the term is conceptualised as an archetype with suitable attributes that can be reproduced or imitated. This approach seeks to provide a clearer and more precise vision of the phenomenon of competitiveness, establishing a theoretical framework that allows for the analysis of its essential dimensions and characteristics.

Guerrero (2001) conceives competitiveness as a purely theoretical construct, embodied in a stereotype that serves as a guide to follow. In the same vein, Santesmases (2023) defines the model as the simplified representation, either physical or abstract, of the fundamental elements of a given reality. A specific model of objectives, variables and interrelationships, supported by theories and hypotheses that are subjected to the evaluation of data and facts.

From Moya's (2019) perspective, models are configured as constructs that distinguish a theoretical and an empirical part, constituting an axiomatic system that accepts empirical hypotheses or conventions. In this sense, it is fundamental to underline that competitiveness is linked to approaches such as the one proposed by Heckscher-Ohlin, which is based on the theory of comparative advantage developed by David Ricardo and Heckscher in 1919. Moya (2019) highlights that this model, reformulated and focused on the United States, considers that the country exports more intensively in skilled labour than in capital, given its high investment in the latter. Thus, the exports of industrialized countries include mostly highly skilled labour, such as scientists, engineers and technicians, demonstrating that these countries optimize these factors of production.

In terms of both comparative and competitive advantages, the model highlights that if a country has a relative abundance of certain factors (labour or capital), it will gain comparative

and competitive advantages in the production of goods that require a greater quantity of these factors. Consequently, trade advantages derive from each country's factor endowment, as evidenced by the diversity of production costs of goods. Thus, the greater the availability of a factor, the lower the cost of production.

Porter's (1985) Single Diamond focuses on the competitive advantage of nations, proposing key determinants for assessing a nation's global competitiveness. Another relevant model is the Generalised Diamond of Moon et al., (1995), which introduces the notion of a local and a foreign diamond. In this model, a relationship between firms is established and weak aspects of Porter's model are addressed by incorporating multinational activities and considering governmental influence.

An additional approach is Cho and Moon's (2013) Nine Factor Model, which argues that the international competitiveness of a national industry is defined by its superior market position, achieved through sustained profits and steady growth compared to its competitors. This model highlights the importance of specific factors in maintaining and improving international competitiveness.

Each of these models offers a unique perspective for understanding and assessing competitiveness at national and international levels. While Porter's Single Diamond emphasizes the relevance of internal factors, the Generalized Diamond broadens the view by considering foreign elements. The Nine Factor Model emphasizes performance and market position as crucial determinants of competitiveness. The integration and comparison of these approaches provides a more comprehensive and nuanced view of the factors that influence competitiveness at the global level.

The conceptual model of destination competitiveness proposed by Crouch and Ritchie is a significant contribution to the analysis of competitiveness in tourism. Based on the Calgary model, this framework highlights the importance of a competitive tourism destination in sustainably increasing the well-being of the local population over the long term. To fully understand this approach, it is essential to explore two key elements that define competitiveness in tourism destinations.

Firstly, comparative advantage, associated with the endogenous resources of the destination, encompasses various aspects such as human and physical resources, knowledge of local resources, availability of capital, tourism infrastructure, historical and cultural resources, as well as the size of the local economy. This dimension underlines the relevance of the destination's intrinsic resources as determining factors for its competitiveness.

Secondly, competitive advantage, related to the resources deployed, involves the effective ability to utilize these resources over the long term. This encompasses key processes such as resource auditing and inventory, resource maintenance, growth and development strategies, as well as the efficient and effective implementation of initiatives that enhance the destination's competitiveness.

The Crouch and Ritchie model offers a holistic perspective that considers both endogenous resources and their effective management for lasting tourism competitiveness. This approach not only highlights the importance of local resources, but also their strategic use for the sustainable benefit of the local community and the continuous improvement of the tourism destination.

The "Integrated Model" proposed by Dwyer and Kim (2003) emerges as a comprehensive approach to understanding competitiveness in tourism destinations. This model identifies three fundamental categories that are crucial to the success of a tourism destination and constitute the essence of its competitiveness: "inherited resources", "created resources" and "supporting resources". These components, according to Dwyer and Kim, form the foundation that drives tourism competitiveness in the global landscape.

In addition to the above elements, the model also integrates additional factors such as "situational conditions", "destination management" and tourism "demands". These complementary elements broaden the perspective of the model by considering contextual aspects, strategic destination management and tourists' needs and expectations.

In line with this conceptualization, Dwyer et al. (2003) emphasize that a destination competitiveness model should rigorously address the issues identified in the literature and address the particular challenges of the destination, harmonizing these elements with the contributions of the research. Alignment with the literature findings and adaptation to the specific circumstances of the destination are essential to strengthen the validity and applicability of the model.

In addressing the issue of competitiveness in the hotel sector, Millán and Gómez (2018) argue that the determinants of competitiveness are intrinsically linked to service processes and conditions, which exhibit substantial variations in each specific tourism context. In a similar vein, Mota et al. (2020) show that management, both from internal and external sources, in conjunction with strategies, has a significant impact on competitiveness. This approach has a remarkable correspondence with the proposal put forward in this article, which considers both internal and external factors to integrate the independent variables that generate competitiveness.

In addition, Tsai et al. (2009) highlight that competitiveness is a central issue for both tourism destinations and the hotel industry. Its relevance translates into the need to build sectoral policies and strategies for hospitality operators. This holistic approach underlines the interconnection between competitiveness at the destination level and the operational efficiency of accommodation services, highlighting its impact at macro and micro levels.

## **Materials and Methods**

This section outlines relevant aspects of the research process underpinning this study. Thus, we examine in detail the type of research, which defines the nature and scope of our analysis; the process and data processing, where we explain how the information was collected and analysed; the population, sample and sampling, essential elements to obtain representative results; and finally, the internal validity and reliability of the instruments, which support the robustness and consistency of the findings.

- **Type of research.** The nature of this research is causal, supported by an explanatory approach and structured by means of a hypothetical-inductive design, based on specific observations to address the phenomenon under study.
- **Data processing and processing.** Data manipulation was carried out using Smart PLS-SEM (Partial Least Squares Structural Equation Modeling) version 3.0. This software, based on partial least squares path modelling, performs estimation on latent variable path models using advanced algorithms, allowing the calculation of standard evaluation criteria. It is notable for its ability to model non-normal data and handle large data sets.

- **Population, sample and sampling.** In the context of this research, it is relevant to mention that the population under study is made up of the managers and guests of the hotels affiliated to the Hotel Association of Colombia, Boyacá chapter.

Population 1 - Managers of hotels affiliated to Cotelco, Boyacá chapter. The census technique was applied to 55 hotels.

Population 2 - Guests of the hotels affiliated to Cotelco, Boyacá chapter.

A structured survey was carried out using quota sampling, with a choice proportional to the size of the stratum, which in this case corresponds to the city where the hotel is located. It should be noted that a sampling frame was not available during the process.

The sample size was calculated considering a predefined sampling error and confidence coefficient. In the absence of a specific sampling frame, an estimation was made by taking the maximum required value for  $n$  (0.5 for  $p$  and  $q$ ). In addition, the sigma value for the probability at a 95% confidence level, a sampling error of 0.05 and the assumption of an infinite population were considered.

Thus, the sample size was determined as follows:

$$n = \frac{z^2 pq}{e^2}$$

$$n = \frac{(1,96)^2(0,5)(0,5)}{(0,05)^2}$$

$$n = 384,15$$

- **Internal validity and reliability of the instruments.** The validity and internal consistency of the instruments used in the surveys aimed at managers and guests are fundamental aspects to guarantee the suitability of the application. Internal consistency is assessed by means of correlations between different items within the same test, seeking to determine whether the items produce convergent results in the general context. This analysis will be carried out using Cronbach's Alpha coefficient. In terms of interpretation,  $\alpha \geq .9$  will be considered to indicate excellent internal consistency,  $.9 > \alpha \geq .8$  reflects good internal consistency,  $.8 > \alpha \geq .7$  is considered acceptable internal consistency,  $.7 > \alpha \geq .6$  is classified as doubtful internal consistency,  $.6 > \alpha \geq .5$  is labelled as poor internal consistency, and  $\alpha < .5$  is considered unacceptable internal consistency. This approach will provide a comprehensive assessment of the reliability and validity of the instruments used in the research.

The expert judgement model was used to assess the validity of the items, involving both managers and guests (Expert judgement protocol for managers and guests; Expert judgement report). In this judgement, crucial aspects such as adequacy, coherence, relevance and clarity were assessed by assigning a score on a scale of 1 to 5. For the statistical analysis, Kendall's W coefficient of concordance was applied, which is especially suitable for ordinal data. The following hypothesis system was established for interpretation:

**{ H0: The experts' rating ranges are independent and therefore do not agree.**  
**{ H1: There is significant agreement between the expert ratings.**

With a 95 % confidence level in the test, a significance threshold of 5 % is set. Therefore, when the p-value is less than 0.05, the null hypothesis is rejected, concluding that there is significant agreement between the ranks assigned by the judges. It should be noted that the strength of agreement is interpreted as a function of the proximity of W to 1, as shown in Table 1.

**Table 1. Concordance values**

| Matching value | Interpretation           |
|----------------|--------------------------|
| >0,75 a 1      | High concordance         |
| >0,50 a 0,75   | Considerable concordance |
| >0,25 a 0,50   | Moderate concordance     |
| 0 a 0,25       | Low concordance          |

The instrument shows a moderate degree of agreement in the overall assessment made by the experts. The review of the clarity of the items related to general information, as well as the coherence of the items associated with management information, stands out.

Expert evaluation of guest surveys: All experts agree that the proposed instrument meets the objectives of the research and is applicable. 85.7% of the experts consider that the structure of the instrument is adequate, the items are clear and understandable, and the number of items fits the research purposes. The instrument exhibits a moderate degree of agreement in the overall assessment of the experts. Statistically significant Kendall's W values are recorded for all assessed aspects of the instrument's dimensions. See Table 2 for more details.

**Table 2. Applied technical sheet**

|                                  |   |
|----------------------------------|---|
| Sector of analysis               | Hotel sector in Boyacá.                       |
| Subsector                        | Hotels affiliated to Cotelco, Boyacá Chapter. |
| Population                       | 1. Hotel managers<br>2. Guests.               |
|                                  | 1.Finite<br>2.Infinite                        |
| Level of Confidence              | 95 %  |
| Value of Z                       | 1,96  |
| P value (Probability in favour)  | 50 %  |
| Value of Q (Probability against) | 50 %  |
| Error allowed                    | 5 %   |
|                                  | $n_1=55$<br>$n_2=384$                         |
| Response rate                    | 100 %<br>98,21 %<br>100                       |

The table presents the main sampling criteria used for the two instruments that facilitated the conduct of the research: manager and guest surveys. In the case of the manager survey, a census



was conducted in a finite population of 55 hotels. The structured survey consisted of 21 items with closed response options, with a total of 105 response options (see Annex 1).

The guest survey was conceptualized with an infinite population and was carried out using quota sampling, with stratification defined according to the cities in which the subject hotels are located. A sample size of 384 surveys was established, consisting of 21 items. Of these, 16 consisted of closed questions, while the remaining 5 were open-ended (see Annex 2).

## Results

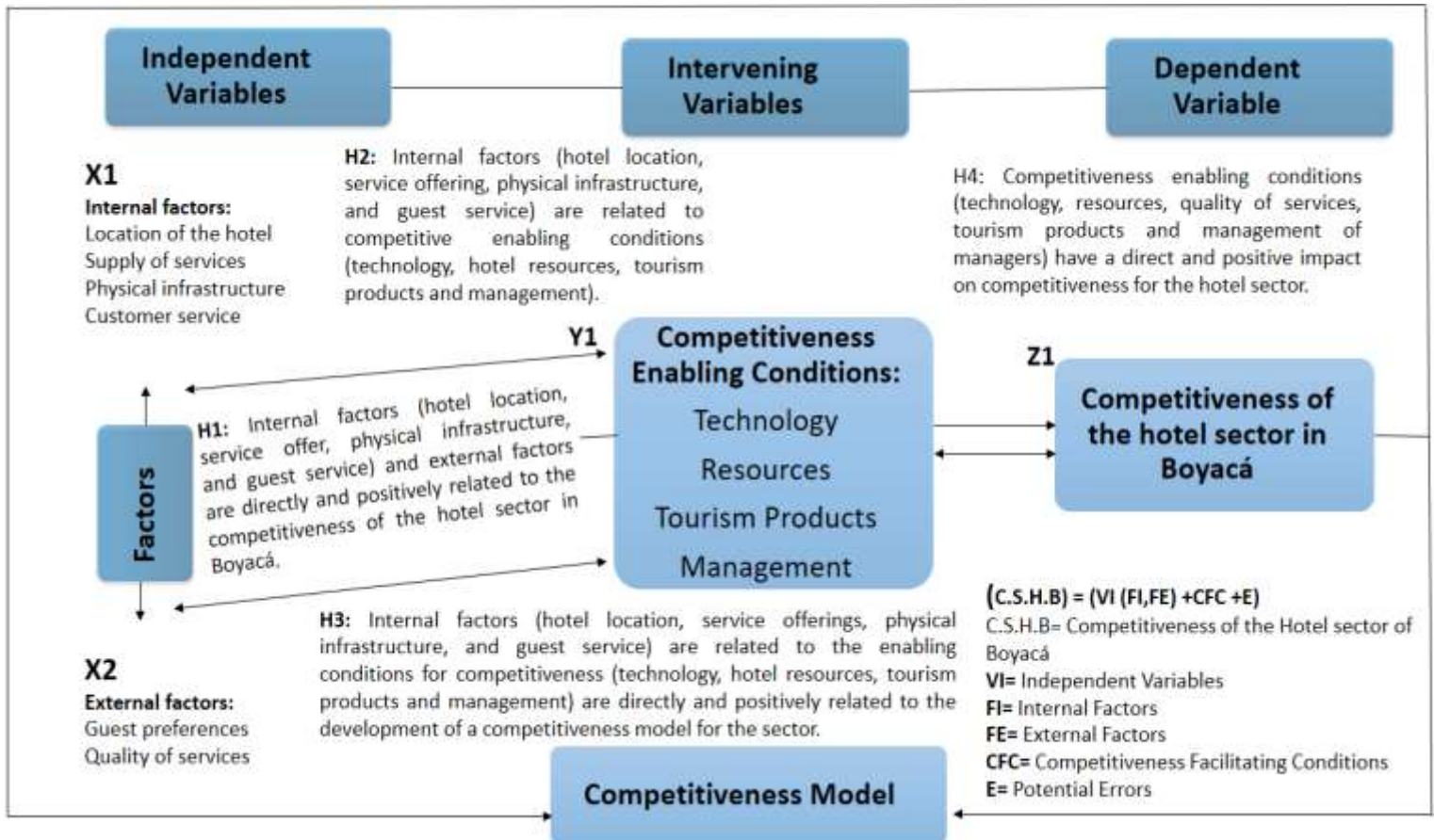
The analytical perspective outlined constitutes a research approach derived from unexplored areas identified in the literature, particularly with regard to tourism competitiveness and, to a lesser extent, competitiveness models specifically designed for the hotel sector. The validation of this model was carried out in synergy with a variety of stakeholders, including academic, governmental, business, trade and community representatives, thus providing a diversified wealth of perspectives. The intrinsic reliability of the model, as well as the instruments and items used, ensures not only internal validity but also the reliability necessary to support the external validity of the research.

These results coincide with the conclusions presented by García et al., (2023), who recognize the distinctive skills that, as evidenced in this paper, enable the success of hotel establishments to be enhanced by addressing crucial aspects such as the quality of facilities and services. The modelling presented in this study not only integrates but also expands on the essential elements that contribute to excellence in the hotel industry.

In the proposed scheme, the independent variables are integrated with both external and internal factors, together with intervening, mediating, moderating or facilitating variables, and the dependent variable. External factors include industry trends, guest preferences and service quality, while internal factors include hotel location, service offerings, physical infrastructure and guest service. The intervening variables include technological aspects, resources, tourism products and hotel management, the dependent variable being the competitiveness of the hotel sector in Boyacá (see Figure 1). This model provides a comprehensive perspective ranging from external influences to internal elements and their interrelationships, thus forming a detailed and complete framework of analysis.

### Figure 1. General research analysis model

**Competitiveness Model for the Hotel sector in Boyacá.**



**Modelling**

For the formulation of the competitiveness model of the hotel sector in Boyacá, we began with the definition of the latent and observable variables in a global context, incorporating all the internal and external factors proposed by the general analytical framework of the research. This framework is broken down into two specific models: the manager model and the guest model. Both models were subjected to an analysis process using SmathPLS-SEM version 3.0, which required substantial adjustments, resulting in restructured models. These reconfigured models were then thoroughly evaluated.

This methodological approach seeks to provide a comprehensive and detailed representation of the competitiveness of the hotel sector, considering the complex interactions between internal and external factors. Adaptation of the initial models was imperative to ensure adequate correspondence with the empirical data and to guarantee the robustness of the results.

The process of adjusting and restructuring the models was carried out in order to optimize the internal consistency and external validity of the models. These modifications were based on the feedback obtained during the evaluation phase, which focused on the adequacy of the relationships between variables and the accuracy in capturing the complexity inherent to the hotel sector.

The use of SmathPLS-SEM version 3.0 allowed for a rigorous evaluation of the restructured models, thus supporting the robustness of the results derived from the modelling of the competitiveness of the hotel sector in Boyacá. This advanced methodological approach seeks to offer a significant contribution to the understanding and analysis of competitiveness in the specific field of hotels in the Boyacá region.

### **Evaluation of initial models of managers and guests**

A number of tests were carried out in order to identify the model that would enable the evaluation. Once the most suitable model was identified, it was noted that these experiments were guided by the reflective design approach. To assess the reliability of the selected model, Cronbach's Alpha coefficient was used, which, according to the methodology proposed by Henseler et al. (2009), calculates reliability using intercorrelation indicators. Reliability was also verified through the composite reliability coefficient.

In the process of validating the reliability of the constructs in the initial model involving managers and guests, Cronbach's Alpha and the Composite (construct) Reliability Coefficient are used. This choice is based on the consideration that Cronbach's Alpha tends to underestimate the internal consistency of the variables. In this context, it is postulated that Composite Reliability emerges as the most appropriate indicator to carry out this assessment.

Table 3 provides a detailed view of the results, showing that, in the case of technology and competitiveness, the maximum value of 1 is reached, given that it is explained by only one indicator. This finding reinforces the strength and uniqueness of the relationship between these variables in the framework of the proposed model.

**Table 3. Cronbach's alpha and composite reliability coefficient initial model managers**

| <b>Construct</b>        | <b>Cronbach's alpha</b> | <b>Composite reliability</b> |
|-------------------------|-------------------------|------------------------------|
| Customer service        | 0.87                    | 0.90                         |
| Competitiveness         | 1.00                    | 1.00                         |
| Management              | 0.90                    | 0.91                         |
| Physical infrastructure | 0.89                    | 0.91                         |
| Services offered        | 0.75                    | 0.82                         |
| Tourism products        | 0.85                    | 0.93                         |
| Human resources         | 0.75                    | 0.83                         |
| Technology              | 1.00                    | 1.00                         |
| Hotel location          | 0.41                    | 0.67                         |

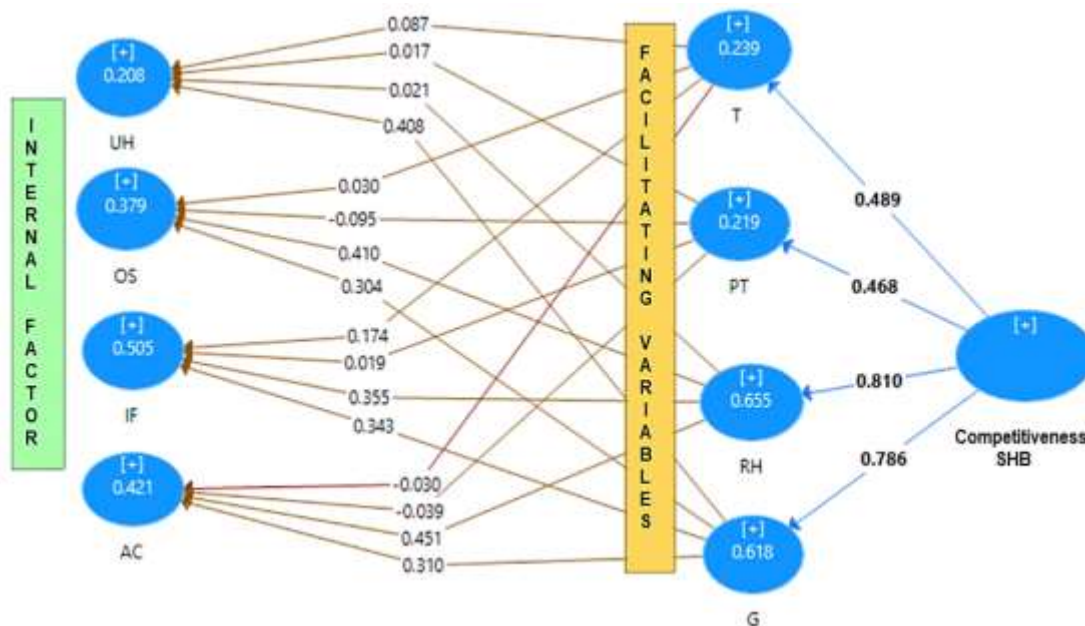
With regard to the hotel location dimension, it is observed that Cronbach's Alpha coefficient reaches the lowest level, registering a value of 0.41. Although this value does not reach the minimum threshold considered acceptable, it is important to highlight that the composite

reliability presents a higher measure, registering a value of 0.67. This disparity between the results suggests that, despite the apparent limitation of Cronbach's alpha, composite reliability provides a more optimistic view of the internal consistency of the variables in question. Therefore, the reliability of the hotel location dimension could be considered acceptable, especially when taking into account the tendency of Cronbach's Alpha to underestimate this consistency.

**Correlation between constructs and manifest variables initial model managers**

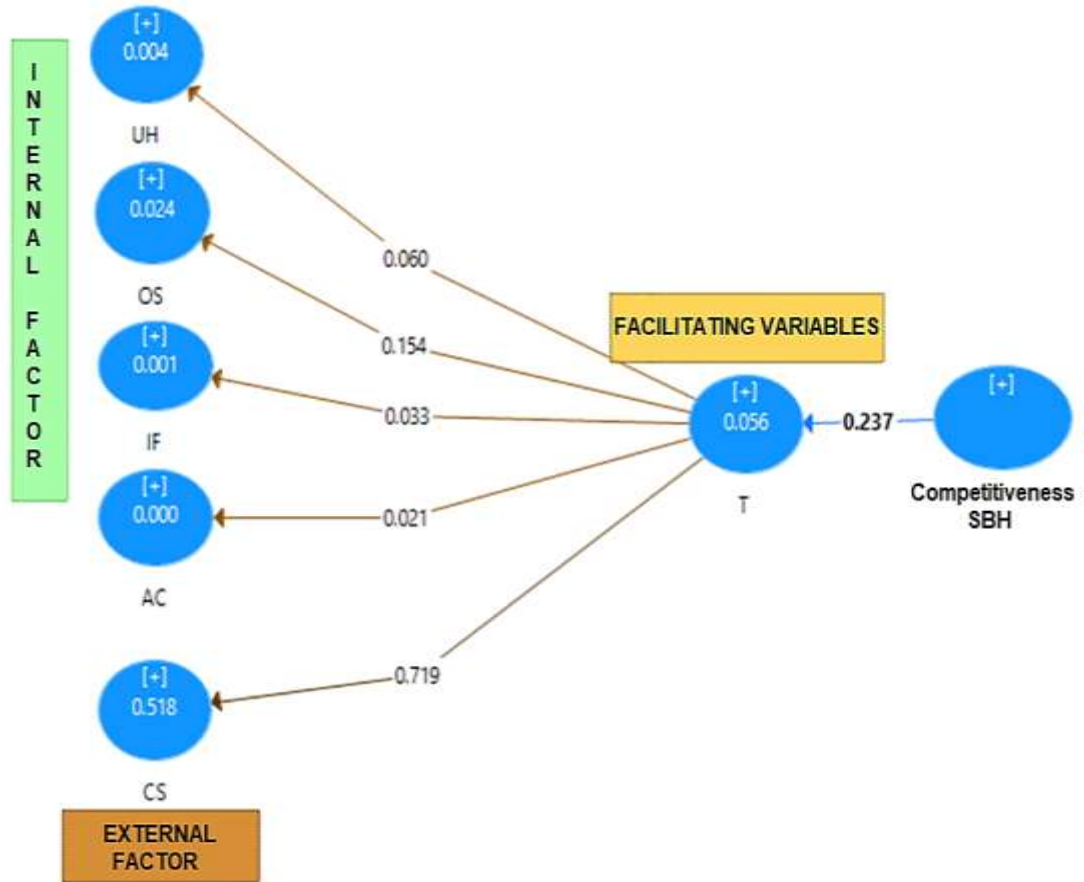
Since the latent variable must substantially explain the variance of the constructs, the correlation between a construct and each of its manifest variables (indicators) is expected to exceed the threshold of 0.7, according to the outer loadings criteria. The outer loadings of the reflective model for managers are presented visually in Figure 2.

**Figure 2. MGA integration with PLS-SEM managers**



Figures 2 and 3 show how the overall model of analysis maintains the structure allowing the demonstration of the hypotheses put forward.

**Figure 3. MGA integration with PLS-SEM Guests**



Both models, applied to managers and guests, exhibit a composite reliability above 0.7 in all constructs evaluated. This result underlines the sufficient reliability in the construction of the latent variables aimed at explaining the competitiveness of the hotel sector in Boyacá. It should be noted that greater importance is given to composite reliability, as Cronbach's Alpha tends to underestimate the internal consistency of the variables. In this context, it is clarified that a value lower than 0.6 in Cronbach's Alpha does not compromise the assessed reliability, i.e. the reliability of the construct remains solid.

A. Correlation between Constructs and Manifest Variables in the Managers' and Guests' Models with the restructuring of the model, the criterion of obtaining a correlation between constructs and observed variables of the model that exceeds the threshold of 0.7 was met.

B. Convergent Validity and Discriminant Validity for the Managers and Guests Model. Convergent Validity: Both models exhibit convergent validity, as they exhibit mean extracted variance greater than 0.5 for all model constructs.

Discriminant Validity: Both final models, the one for managers and the one for guests, have achieved discriminant validation according to the Fornell-Larcker criterion. This is evidenced by the highest correlations between the construct and its own observed variables, in contrast to the lower correlations between the construct and other constructs.

A detailed correlation of the observed variables with their respective constructs has been provided. In this way, the cross-loading criterion, which states that the highest correlation

should be with the construct that the variable is intended to explain, rather than with other constructs, is met. This approach ensures discriminant validity and reinforces the consistency of the analysis performed in both models.

**Structural Model Assessment:** After the thorough assessment of the reliability and validity of each construct, we proceed to the assessment of the structural model, using specific criteria. These include the significance and relevance of the path coefficients, the magnitude of the coefficients of determination  $R^2$ , Cohen's impact effect  $f^2$ , the predictive relevance ( $Q^2$ ), and the significance of the path coefficients. To determine the significance of the latter, the bootstrapping technique was employed using SmartPLS, obtaining the results detailed below:

### **Report of path coefficients in the restructured managers' model.**

By virtue of the analysis of the path coefficients in the restructured model for managers, the decision rule based on Student's t-statistic is adopted. At a confidence level of 95%, the significance consideration is set as follows: values of the statistic less than 1.645 are not significant, with p-values greater than 0.05 corresponding to p-values.

Looking at the table, it is noted that underlined p-values indicate significance. In this context, it is pertinent to note that 8 of the 24 relationships present in the model demonstrate significant levels of association, thus supporting the relevance of these connections within the framework of the assessed structure.

Based on the data presented in the table and taking into account the perspective outlined by Pérez et al. (2013), who argue that Path Coefficients allow discerning the effects of one variable on another, it is found that management emerges as one of the variables with the greatest impact on the competitiveness of the sector, according to the perception of the managers surveyed. It is also evident that physical infrastructure, tourism products, resources, technology and the location of the hotel also have an impact on competitiveness, although to a lesser extent, as does the supply of services.

Similarly, it can be seen that the hotel's resources variable, which includes economic, technological, natural, artificial and human talent aspects, influences customer service. This association can be interpreted as indicating that the availability of resources translates into an improvement in customer service, covering aspects such as friendliness, staff attitude, personal presentation, timeliness of response, knowledge and assertiveness in information.

With regard to the surveyed guests, it is observed that, of the 11 relationships contemplated in the model, five of them present significant levels of association, indicating that the quality of the services, the supply of services, the technology and the location of the hotel directly influence the competitiveness of the hotel sector in Boyacá. This observation suggests that the sustainability or improvement of service quality standards, as well as the maintenance or increase of technology and the optimisation of aspects related to the location of the hotel, are critical elements to preserve competitiveness in the sector.

At the same time, it is highlighted that the quality of services impacts on the advantages that technology can provide. This finding underlines the strategic interrelation between the quality of services and the efficient implementation of technology, both key factors for competitive positioning in the hotel context of Boyacá.

### **Magnitude of the Coefficients of Determination $R^2$ .**

**Managers:** It is relevant to underline that the coefficient of determination  $R^2$  (Pearson's Coefficient) constitutes an essential indicator to assess both the reliability and the validity of the measurement model of the endogenous variables. These variables include customer service,

management, physical infrastructure, service offer, tourism products, resources, technology and hotel location.

Guests: The endogenous variables that affect the reliability and validity of the model include customer service, service quality, physical infrastructure, service offering, technology and hotel location.

The coefficients of determination of the model reveal that 66% of the variability is explained by hotel resources, while 62% is explained by management. In light of these results, managers identify the Hotel Resources and Management constructs as crucial elements. This observation suggests that strategies oriented towards these two aspects should be prioritised in order to generate a significant impact on the competitiveness of the sector.

It is pertinent to underline that management emerges as the catalyst for any initiative, which is a distinctive feature in the sector under study. While recognising the importance of resources, management is positioned as an even more crucial component to effectively deliver and scale up results.

Guests: The coefficients of determination in the model reveal that 54% of the variability is explained by service quality, while 11% is attributed to hotel location.

**Total Effects in the Restructured Models for Managers and Guests.** By determining the total effects, the impact of the constructs in the model can be analysed and those with significant relevance can be identified. The assessment of competitiveness from the managers' perspective reveals that they consider the resources available in the hotel to meet the needs of the guest as one of the main aspects to generate competitiveness, with an effect of 0.81. This is followed by management with an effect of 0.79 and physical infrastructure with an effect of 0.76. It is worth noting that the customer service construct, in relation to the hotel's resources, presents an effect of 0.34. Although this effect does not reach the magnitude of those mentioned above, its significance stands out, indicating an important relevance.

Guests: From the guests' perspective, the assessment of competitiveness reveals that they consider technology as a key element for the generation of quality service, with a coefficient of 0.68. In terms of competitiveness itself, the hotel's location is positioned as a key factor, evidenced by a coefficient of 0.34.

**Significance of the external loadings of the restructured manager and host models.** In both cases, p-values below 0.05 are interpreted as significant indicators of the external loadings of the model. Significance is observed for all observed variables and their corresponding constructs within both models.

**Cohen's  $f^2$  Impact Effect.** Cohen's  $f^2$  allows to evaluate each of the model's relationships and the intensity of its effect.

From the managers' perspective, the competitiveness model mainly highlights relationships with management, physical infrastructure, tourism products, hotel resources, technology and hotel location. The highlighted relationships reflect the intensity of competitiveness, while those that are not highlighted lack significance. When analysing the impact of the variables on competitiveness, it is observed that management and hotel resources have a considerable effect, while physical infrastructure, tourism products, technology and hotel location have a minor effect.

From the guests' perspective, the main intensity is observed in the relationship between technology and service quality. However, some relationships are identified that do not reach significance, as well as others that are not significant in terms of the intensity of the relationship.

Predictive Relevance  $Q^2$  Managers: To establish the level of predictive relevance offered by the constructs of the model, the values of  $Q^2$  were used considering a value of 0.02 as small predictive relevance, 0.15 medium predictive relevance and 0.35 large predictive relevance. Based on the above criteria considered for this analysis, the predictive relevance of the model shows a medium relevance for customer service, physical infrastructure, tourism products, service offerings, technology and hotel location. It has a high relevance for management and hotel resources. Therefore, the model allows predicting the competitiveness of the hotel sector in Boyacá.

To establish the level of prediction offered by the constructs of the model, the values of  $Q^2$  were used, considering a value of 0.02 as small predictive relevance, 0.15 medium predictive relevance and 0.35 large predictive relevance.

**Table 4. Predictive relevance of the restructured model managers**

| <b>Constructs</b>              | <b><math>Q^2 (=1-SSE/SSO)</math></b> |
|--------------------------------|--------------------------------------|
| <b>Customer Service</b>        | 0.23                                 |
| <b>Management</b>              | 0.39                                 |
| <b>Physical Infrastructure</b> | 0.30                                 |
| <b>Service Offering</b>        | 0.23                                 |
| <b>Tourism Products</b>        | 0.17                                 |
| <b>Hotel Resources</b>         | 0.37                                 |
| <b>Technology</b>              | 0.21                                 |
| <b>Hotel Location</b>          | 0.16                                 |

According to the previous table and the criteria used in this analysis, the predictive relevance of the restructured manager model stands out. Medium relevance is observed in aspects such as customer service, physical infrastructure, tourism products, service offerings, technology and hotel location. However, a significant relevance is highlighted in the management and resources of the hotel. Consequently, the model offers the ability to predict the competitiveness of the hotel sector in Boyacá.

#### **Predictive relevance of the host model.**

To establish the level of prediction offered by the constructs of the host model, we also used the values of  $Q^2$  considering a value of 0.02 as small predictive relevance, 0.15 medium predictive relevance and 0.35 large predictive relevance.

**Table 5. Predictive relevance of the restructured host model**

| <b>Constructs</b>          | <b><math>Q^2 (=1-SSE/SSO)</math></b> |
|----------------------------|--------------------------------------|
| <b>Customer Service</b>    | 0.02                                 |
| <b>Quality of Services</b> | 0.32                                 |



|                                |      |
|--------------------------------|------|
| <b>Physical Infrastructure</b> | 0.02 |
| <b>Service Offering</b>        | 0.05 |
| <b>Technology</b>              | 0.04 |
| <b>Hotel Location</b>          | 0.06 |

Table 5 shows that, according to the criteria used in this analysis, the predictive relevance of the guest model shows a medium level for the quality of the services offered by the hotel. A lower relevance is observed for customer service, physical infrastructure, service offering, technology and hotel location. Based on these findings, the assessment of the predictive ability of the model, using predictive relevance  $Q^2$ , highlights that the most significant factor is service quality. This suggests that guests prioritise quality over quantity in their evaluation of hotel service.

**Hypothesis testing.** In relation to the testing of the research hypotheses, it is crucial to clarify that the relationships proposed in the study, delineated through the PLS-SEM, are based exclusively on the constructs of the independent variables, which include the internal factor (hotel location, service offering, physical infrastructure and customer service), the external factors (guest preference and quality of services), the facilitating conditions of competitiveness (technology, hotel resources, tourism products and management), and the dependent variable, competitiveness, as detailed in Table 6.

**Table 6. Factors and variables in hypothesis testing**

| Hypothesis           | Managers   |                        | Guests  |                        |
|----------------------|--|------------------------|---|------------------------|
|                      | Factors  | Conclusion             | Factors   | Conclusion             |
| <b>H<sub>1</sub></b> | Internal factor: location of the hotel, range of services, physical infrastructure and customer service) with competitiveness  | Supported with PLS-SEM | Internal factor: location of the hotel, range of services, physical infrastructure and customer service). External factor: quality of services with competitiveness | Supported with PLS-SEM |
| <b>H<sub>2</sub></b> | Internal factor: location of the hotel, service offer, physical infrastructure and customer service) with Enabler variables: technology, hotel resources, tourism products, management, etc. | Supported with PLS-SEM | Internal factor: location of the hotel, range of services, physical infrastructure and customer service). Enabling variables: technology with competitiveness       | Supported with PLS-SEM |
| <b>H<sub>3</sub></b> | Not applicable to managers   | NA                     | External factors: quality of services Enabling variables:   | Supported with PLS-SEM |

| Hypothesis           | Managers   |                        | Guests  |            |
|----------------------|--|------------------------|---|------------|
|                      | Factors  | Conclusion             | Factors   | Conclusion |
| <b>H<sub>4</sub></b> | Competitiveness enablers: technology, resources, tourism products and management with competitiveness. | Supported with PLS-SEM | Technology with competitiveness<br>Enabling variables:<br>Technology with competitiveness |            |
|                      |  | NA                     | NA  |            |

### **Hypotheses for managers.**

For the first hypothesis, significant path coefficients are observed in the relationship between competitiveness and hotel location (effect 0.99), service offer (effect 0.60) and physical infrastructure (effect 0.78). As for the relationship between competitiveness and customer service (effect 0.29), no statistical significance is found, as evidenced in the path coefficients report. Despite the lack of statistical significance, the research hypothesis postulates a direct and positive relationship. Therefore, hypothesis one for the internal factor holds. It should be noted that, in the case of managers, the external factor does not apply, as this factor refers to the quality of services, which is evaluated by guests.

The internal factor components were validated by the final model of managers using SmartPLS-SEM. En relación con la segunda hipótesis de investigación, resulta relevante analizar la posible relación entre el factor interno y las variables facilitadoras de competitividad. Aunque no se In this hypothesis, it is essential to emphasise that the main interest lies in the existence of some relationship between the variables. Inverse proportional effects are observed, suggesting that an increase in the score of one variable leads to a decrease in the score of the other. This relationship is evident between hotel location and technology, hotel resources, tourism products and management; service offerings and technology as well as tourism resources; physical infrastructure and tourism products and management; and guest service and technology as well as tourism products. It is important to note that the lack of significance in the relationship may be due to the fact that the variables do not depend on each other to explain competitiveness, but rather complement each other.

The third hypothesis applies exclusively to guests, implying that the facilitating variables have a direct and positive impact on competitiveness. These relationships are significant in their entirety, with a relationship effect between competitiveness and technology of 0.49, between competitiveness and hotel resources of 0.81. The magnitude of the most significant relationship can be observed in the competitiveness of tourism products (0.47) and in management (0.79).

In relation to the principal components of the facilitating variables, for the restructured model of managers, some of the variables considered as principal within the component analysis are validated, although not necessarily those with the highest loadings.

### **Hypothesis for guests.**

The first hypothesis states that internal factors, such as hotel location (0.34) and service offering (0.26), as well as external factors, such as service quality (0.16), have a significant and directly positive relationship with competitiveness. These relationships, being significant, statistically support the statements made. All the relationships between the internal factor and the external

factor of the hotel are direct and positive, which confirms research hypothesis one (H1) in the case of guests.

The second hypothesis establishes a significant and positive relationship between competitiveness and service quality (0.16). This hypothesis is examined through the presence of relationships between the internal factor and the facilitating variables for competitiveness. An inverse relationship is observed between technology and hotel location, as well as between technology and physical infrastructure. Therefore, for each point that one of these variables increases, the other will decrease in its valuation in proportion to the path coefficient provided in the model.

The third hypothesis posits a positive and significant relationship between service quality and technology (0.68). This relationship is not only notable for its magnitude, but also has statistical evidence to support its significance. In relation to the factors identified by the principal component analysis, the variables that are considered to be most important in explaining the variance of the phenomenon are included as observed variables to explain competitiveness.

The fourth hypothesis postulates a significant and direct relationship between technology and competitiveness (0.24). Although this relationship does not stand out for its magnitude in explaining competitiveness, it is supported by statistical evidence that confirms its significance.

In general terms, the findings related to the objective and the hypotheses foreseen, it is necessary to highlight that these fulfilled their purpose by demonstrating the direct and positive relationship and in some cases only relationship between the independent, mediating variables and the dependent variable competitiveness. In this sense, the results show sufficient validity and effectiveness of the proposed model.

## **Discussion**

The study on the modelling of competitiveness in the hotel sector in Boyacá has uncovered significant findings, providing a comprehensive view of the dynamics that influence the competitive position of hotels in the region. The proposed analysis model, thoroughly validated, has proven to be a reliable and robust tool for understanding the complexities inherent to this specific sector.

The model developed has effectively addressed gaps in the existing literature on hotel competitiveness by integrating internal and external factors and intervening variables. The inclusion of both managers' and guests' perspectives has enriched the understanding of competitiveness, revealing the complex web of relationships that underlie the hotel industry.

The choice of SEM-PLS to model competitiveness has been successful, providing a robust assessment of the proposed constructs. Reliability coefficients, albeit with slight variation in hotel location, suggest adequate internal consistency in the measures, providing confidence in the validity of the results.

The predictive relevance of the model, supported by the  $Q^2$  test, highlights its ability to forecast the competitiveness of the hotel sector in Boyacá. This aspect is crucial not only from an academic perspective, but also for key actors in the sector, providing an effective tool for making informed decisions.

The evaluation of the structural model highlights two fundamental perspectives: management and hotel resources from the managers' point of view, and technology and location from the guests' perspective. This insight is essential for the design of strategies to strengthen competitiveness from both perspectives, recognising the interconnectedness of internal and external factors.

The confirmation of the hypotheses raised reinforces the robustness of the research, establishing significant relationships between internal and external factors of hotels and their competitiveness. However, limitations are acknowledged, such as the limited production of specific literature, and the overcoming of obstacles through an innovative predictive approach in the manager survey is highlighted.

To close the identified gaps and ensure a more robust approach to competitiveness modelling, specific actions are proposed for managers in the hotel sector in Boyacá.

First, the lack of specific literature, a recognised challenge in research, needs to be addressed. It is suggested that managers collaborate interdisciplinary, fostering synergy between experts in hospitality, economics and other relevant disciplines. This collaboration will not only enrich the available body of knowledge, but also open up new perspectives and research methods. The exploration of alternative methodological approaches is essential; managers may consider adopting innovative and technological practices to collect data more effectively and efficiently.

An additional challenge identified is the difficulty in obtaining the active participation of managers in research. Here, managers can play a crucial role in designing strategies that encourage collaboration. They could implement attractive incentives that motivate participation, such as recognition programmes or tangible benefits that enhance their experience. In addition, a more personalised approach to soliciting their participation could be effective. Establishing close relationships and demonstrating how their contributions directly impact the improvement of the sector can significantly increase the willingness of managers to participate in studies focused on strengthening the competitiveness of the hotel sector.

Overall, effective modelling of competitiveness in the hotel sector in Boyacá depends to a large extent on the proactive collaboration of managers. By adopting interdisciplinary approaches, exploring alternative research methods and overcoming challenges in research participation, managers can contribute significantly to the sustainable and competitive development of the hotel industry in the region. Their continued commitment and strategic actions will not only benefit their own establishments, but also enrich the overall competitive landscape in Boyacá.

## **Conclusions**

The relationship between the independent and mediating variables is linked to the competitiveness of the hotel sector in the department of Boyacá. In line with the research perspective represented by the proposed model of analysis, the instruments and constructs evaluated demonstrated sufficient reliability and validity to guarantee objective results. This supports the internal validity of the research and suggests the possibility of its application in other contexts or sectors, which reinforces its external validity.

The independent and mediating variables show both direct and positive and indirect relationships with the dependent variable, the competitiveness of the hotel sector in the department of Boyacá. In this sense, the independent variables that make up the internal factors, highlighting their control by the hotel organisation (hotel location, range of services, physical infrastructure, customer service), as well as the external factors that are not under the direct control of the organisation (guest preferences, quality of services), are interrelated with each other to generate competitiveness.

In the structural equation analysis, it is observed that for managers, the most relevant constructs are the following: Physical Infrastructure (FI) with an  $R^2$  value of 58.9%, indicating the

goodness of fit and statistical significance of the relationship. Customer Service (AC) has an  $R^2$  of 43.4%, Service Offering (OS) has an  $R^2$  of 42.8%, and Hotel Location (UH) has an  $R^2$  of 34.3%.

On the other hand, in the case of guests, the construct that contributes most to competitiveness is Service Quality (CS), with an  $R^2$  of 58.2%. It is followed by Hotel Location (UH) with an  $R^2$  of 11.3%. In addition, the constructs Physical Infrastructure (FI) and Customer Service (CS) share an  $R^2$  of 2.6%.

## References

- Arredondo, F., Vázquez, J., & De la Garza, J. (2016). Factores de innovación para la competitividad en la Alianza del Pacífico. Una aproximación desde el Foro Económico Mundial. *estud.gerenc.* 32(141) 299-308. <https://doi.org/10.1016/j.estger.2016.06.003>.
- Asociación Hotelera y Turística Cotelco (2022). El turismo y la hotelería. <https://www.cotelco.org/politica-datos>
- Aznar, J.P., Bagur, L., Rocafort, A. (2016). Impact of service quality on competitiveness and profitability: The hotel industry in the Catalan coast. *Intangible Capital* 12(1), 147-166. [https://www.researchgate.net/publication/293009564\\_Impact\\_of\\_service\\_quality\\_on\\_competitiveness\\_and\\_profitability\\_The\\_hotel\\_industry\\_in\\_the\\_Catalan\\_coast](https://www.researchgate.net/publication/293009564_Impact_of_service_quality_on_competitiveness_and_profitability_The_hotel_industry_in_the_Catalan_coast)
- Bernal, C., Fracica, G. & Frost, S. (2012). Análisis de la relación entre innovación u la gestión del conocimiento con la competitividad empresarial en una muestra de empresas en la ciudad de Bogotá. *Revista Estudios Gerenciales* (28). 303-315 <https://www.redalyc.org/articulo.oa?id=21225840016>
- Centro de Pensamiento Turístico de Colombia, CPTC (2022). Competitividad turística. <https://cptur.org/publicaciones/F2PwTTCzHV183oZ>
- Chang, T.-Y., Chiu, Y.-C.(2023). Exploiting Service Design in Service Quality: Escorting the Customer's Experiential Value in the Journey of a Star-Rated Hotel. *Systems*, 11 (4), 1-21. <https://www.mdpi.com/2079-8954/11/4/206>
- Chesnais, F. (1986). *Science Technology and Competitiveness*. STI Review, Paris: Organisation for Economic Co-Operation and Development.
- Cho, D. S., y Moon, H.C. (2013). National Competitiveness: Implications for different groups and strategies. *International Journal of Global Business and Competitiveness*, 1(1), 1-11. <https://s-space.snu.ac.kr/bitstream/10371/61988/1/2.pdf>
- Dwyer, L. y Kim, C. (2003). Destination Competitiveness: Determinants and Indicators, *Current Issues in Tourism*, 6, 369-414. <https://doi.org/10.1080/13683500308667962>
- Dwyer, L., Livaic, Z. y Mellor, R. (2003). Competitiveness of Australia as a tourist destination. *Journal of Hospitality and Tourism Management*, 10 (1). [https://scholar.google.com/citations?view\\_op=view\\_citation&hl=es&user=afm1rHEAAAAJ&citation\\_for\\_view=afm1rHEAAAAJ:u-x6o8ySG0sC](https://scholar.google.com/citations?view_op=view_citation&hl=es&user=afm1rHEAAAAJ&citation_for_view=afm1rHEAAAAJ:u-x6o8ySG0sC)
- García-Guilianny, J., Paz-Marciano, A., & Boscán, M. (2023). Distinctive skills: boosting business success in hotels on the Colombian Caribbean Coast. *Revista Venezolana de Gerencia*. 28, (9), 234 – 2475. <https://doi.org/10.52080/rvgluz.28.e9.15>
- Guerrero, M. (2001). La concepción de los modelos en las ciencias sociales. <https://www.gestiopolis.com/concepcion-modelos-ciencias-sociales/>
- Henseler, J., Ringle, C.M. and Sinkovics, R.R. (2009), The use of partial least squares path modeling in international marketing, Sinkovics, R.R. and Ghauri, P.N. *New Challenges to International Marketing (Advances in International Marketing, Emerald Group Publishing Limited, Bingley*, (20) 277-319. [https://doi.org/10.1108/S1474-7979\(2009\)0000020014](https://doi.org/10.1108/S1474-7979(2009)0000020014)
- Krugman, P. (1979). Increasing returns, monopolistic competition, and international trade. *Journal of International Economics*. <https://www.sciencedirect.com/science/article/abs/pii/0022199679900175>
- León, R., Montalvo, J., Chamba, V., & León, L. (2022). Diagnóstico turístico en la parroquia Timbara, Cantón Zamora, Provincia Zamora Chinchipe (Ecuador). *Rev Non Verba Revista Científica*. 12(1) <https://orcid.org/0000-0001-8187-206X>

- Lilik Rudianto (2009). Competitiveness Theory. *DIE – Jurnal Ilmu Ekonomi dan Manajemen* 6(1).[https://www.researchgate.net/publication/353503802\\_COMPETITIVENESS\\_THEORY](https://www.researchgate.net/publication/353503802_COMPETITIVENESS_THEORY)
- López\_Gamero, M., Pereira-Moliner, J., Molina-Azorin, J., Tarí, J., y Pertusa-Ortega E. (2022). Sostenibilidad y desempeño en la industria hotelera: el papel mediador de las ventajas competitivas. *Cuadernos de Turismo*, 49(1) 105-130.  
[https://rua.ua.es/dspace/bitstream/10045/124035/1/Lopez-Gamero\\_etal\\_2022\\_CuadTurismo.pdf](https://rua.ua.es/dspace/bitstream/10045/124035/1/Lopez-Gamero_etal_2022_CuadTurismo.pdf)
- Millán-García & Gómez-Díaz (2018). Factors and indicators of hotel competitiveness. *Compendium*, vol. 21, núm. 40. En: <https://www.redalyc.org/journal/880/88055200021/html/>
- Moon, C., Rugman, A., y Verbeke, A. (1995). *The generalized double diamond approach to international competitiveness*. USA: Emerald Group Publishing Limited.
- Mota-Veiga, P., Ambrosio, F., y Ribeiro-Ferreira (2020). Competitiveness of the Hotel Industry: A Knowledge Management Approach. In book: *Multilevel Approach to Competitiveness in the Global Tourism Industry* (pp.9-25). DOI:10.4018/978-1-7998-0365-2.ch002
- Moya, P. (2019). Aproximaciones teórico conceptuales como aporte para la formulación de una propuesta de modelo de competitividad para los hoteles de Boyacá. En *Tópicos gerenciales para la gestión de empresas: Una mirada desde la investigación*. EAN Ediciones. 217- 253.
- Pérez, E. Medrano, L.; Sánchez Rosas, J. (2013). El Path Analysis: conceptos básicos y ejemplos de aplicación *Revista Argentina de Ciencias del Comportamiento*, 5(1) 52-66 Universidad Nacional de Córdoba Córdoba, Argentina.
- Porter, M. (1985). La ventaja competitiva según Michael Porter.  
[http://fcaenlinea.unam.mx/anexos/1423/1423\\_u3\\_act3.pdf](http://fcaenlinea.unam.mx/anexos/1423/1423_u3_act3.pdf)
- Santesmases, M. (2023). Modelo. [http://www.miguelsantesmases.com/webmsm\\_006.htm](http://www.miguelsantesmases.com/webmsm_006.htm)
- Santis-Puche, M. (2021). Los factores claves de la competitividad en el sector hotelero: una propuesta desde la teoría de los recursos y capacidades (VBR). *Revista Científica Anfibios*, 4(1), 53-64.  
<https://doi.org/10.37979/afb.2021v4n1.84>
- Tsai, H., Song, H., & Wong, K. (2009). TOURISM AND HOTEL COMPETITIVENESS RESEARCH. *Journal of Travel & Tourism Marketing*, 26:522–546.  
<https://doi.org/10.1080/10548400903163079>
- Zhan, L., Cheng, M., y Zhu, J.(2024). Progress on image analytics: Implications for tourism and hospitality research. *Journal Tourism Management*.  
<https://doi.org/10.1016/j.tourman.2023.104798>

## **Anexos**

### **ANEXO 1 - ENCUESTA A GERENTES DE LOS HOTELES AFILIADOS A COTELCO BOYACÁ**

**Encuesta dirigida a Gerentes de los hoteles de Boyacá**

**Objetivo**

Identificar cómo perciben los gerentes de los hoteles afiliados a Cotelco algunos aspectos de la competitividad en la investigación **Desarrollo de un Modelo de Competitividad para el Sector Hotelero de Boyacá.**

**Instrucciones**

En este instrumento encuentra preguntas cerradas con una o más opciones de respuesta que se deben contestar señalando con una X "Equis". Otras asignando la calificación entre 1 y 5, y preguntas abiertas para contestar en el espacio en blanco.  
Sus respuestas serán tratadas de forma confidencial y no serán utilizadas para ningún propósito distinto a la investigación. El trato de la información se hará a nivel general y en ningún caso de manera particular.

**Información General**

Género  M  F

1. Tiempo en el cargo de Gerente
  - a) De 1 mes a 1 año.
  - b) De 1 a 3 años.
  - c) De 4 a 6 años.
  - d) Más de 6 años.
2. Su Edad esta entre el siguiente rango:
  - a) De 18 a 30 años
  - b) De 31 a 40 años
  - c) De 41 a 50 años
  - d) Más de 51 años.
3. Nivel educativo:
  - a) Sin estudios\_\_
  - b) Primaria\_\_
  - c) Secundaria\_\_
  - d) Técnica\_\_
  - e) Tecnológica\_\_
  - f) Universitaria\_\_, ¿Profesión?: \_\_\_\_\_
  - g) Posgrado \_\_, ¿En qué área?: \_\_\_\_\_
4. Usted además de ser gerente es:
  - a) Dueño/accionista
  - b) Únicamente empleado
  - c) Otro: ¿Cuál? \_\_\_\_\_
5. Fecha de inicio de actividades del hotel:
6. Fecha de construcción del hotel:
7. El hotel es una empresa:
  - a) Familiar
  - b) Sociedad. ¿Tipo de sociedad?: \_\_\_\_\_
  - c) De cadena. ¿Qué cadena Hotelera? \_\_\_\_\_
  - d) Otra ¿Cuál? \_\_\_\_\_

**Información específica del hotel.**

8. Califique los siguientes aspectos con respecto a la **ubicación del Hotel:**

| Aspecto  | Calificación |
|--|--------------|
| a) Facilidad de ubicación o localización del hotel |              |
| b) Vías de acceso al hotel                         |              |
| c) Condiciones del entorno del hotel               |              |
| d) Paisaje   |              |

9. Califique los siguientes aspectos de los servicios que ofrece el hotel, entre 1 y 5, siendo 1 la menor y 5 la calificación máxima.

| Aspecto  | Calificación |
|--|--------------|
| a) Precio de los servicios del hotel                           |              |
| b) Publicidad del hotel y sus servicios                        |              |
| c) Relaciones Interpersonales de los empleados con el huésped. |              |
| d) Imagen del hotel  |              |
| e) Información del portafolio de servicios del hotel           |              |
| f) Información turística local                                 |              |
| g) Información general.  |              |
| h) En términos generales todos los servicios del hotel         |              |

10. Califique en términos generales cómo es el componente tecnológico del hotel \_\_\_\_\_.(Entre 1 y 5)

11. Califique los siguientes aspectos de la **infraestructura física** del hotel de 1 a 5, siendo 1 la menor y 5 la calificación máxima.

| Aspecto                                      | Calificación |
|--|--------------|
| a) Apariencia del hotel                      |              |
| b) Estado de conservación de la construcción |              |
| c) Condiciones térmicas para el descanso     |              |
| d) Insonorización de la habitación           |              |
| e) Enchufes                                  |              |
| f) Aseo/limpieza                             |              |
| g) Decoración                                |              |
| h) Tendidos                                  |              |
| i) Toallas                                   |              |
| j) Pisos                                     |              |
| k) Iluminación                               |              |
| l) Aireación                                 |              |
| m) Sanitarios                                |              |
| n) Amenities                                 |              |
| o) Estado del mobiliario.                    |              |

12. Califique cómo es la **atención al cliente** que ofrecen sus colaboradores al huésped.

| Aspecto                         | Calificación |
|---------------------------------|--------------|
| a) Amabilidad del personal      |              |
| b) Actitud de servicio          |              |
| c) Presentación personal        |              |
| d) Oportunidad de respuesta     |              |
| e) Conocimiento                 |              |
| f) Aserividad en la información |              |

13. Por favor indique los servicios, capacidad y califique cada aspecto entre 1 y 5, siendo 1 la mínima y 5 la máxima calificación.

| Aspecto                  | Capacidad en # de personas | Calificación |
|--------------------------|----------------------------|--------------|
| a) Habitaciones          |                            |              |
| b) Camping               |                            |              |
| c) Eventos y recepciones |                            |              |
| d) Restaurante           |                            |              |
| e) Bar                   |                            |              |
| f) Piscina               |                            |              |
| g) Yacusi                |                            |              |
| h) Sauna                 |                            |              |
| i) Otras.                |                            |              |

14. Indique y califique el número de empleados del hotel.

| Aspecto        | Cantidad | Calificación |
|----------------|----------|--------------|
| a) permanentes |          |              |
| b) temporales  |          |              |

15. Califique los recursos que posee el hotel al servicio del huésped, entre 1 y 5, siendo 1 la mínima y 5 la máxima calificación.

| Aspecto                                    | Calificación |
|--|--------------|
| c) Recursos económicos                     |              |
| d) Recursos tecnológicos                   |              |
| e) Recursos naturales (paisaje...)         |              |
| f) Recursos artificiales(edificaciones...) |              |
| g) Talento humano                          |              |
| h) Otro(s) ¿Cuál?                          |              |

16. Califique cómo el hotel ofrece a los huéspedes los siguientes aspectos.

| Aspecto                            | Calificación |
|------------------------------------|--------------|
| a) Productos, paquetes turísticos  |              |
| b) Guianza, recorridos turísticos. |              |



**Información de gestión gerencial**

17. Califique entre 1 y 5, siendo 1 la mínima y 5 la máxima calificación, cómo el hotel en un ambiente de globalización y competitividad asume los siguientes aspectos.

| Aspecto   | Calificación |
|---|--------------|
| a) Conoce su(s) principal (es) competidor (es) en el contexto local.                        |              |
| b) Conoce su principal destino competidor en el contexto regional.                          |              |
| c) Tiene identificados los valores agregados destinados a los huéspedes                     |              |
| d) Define su(s) producto(s) líderes) dentro del portafolio                                  |              |
| e) Identifica los requerimientos de los huéspedes   |              |
| f) Cuenta con estudio de las últimas tendencias en el sector hotelero a nivel nacional      |              |
| g) Cuenta con estudio de las últimas tendencias en el sector hotelero a nivel internacional |              |
| h) Hace estudio comparativo con los estándares de hoteles de clase mundial?                 |              |

18. Califique cómo es el proceso de toma de decisiones en el hotel, entre 1 y 5 siendo 1 la mínima y 5 la máxima calificación.

| Aspecto  | Calificación |
|--|--------------|
| a) Como un proceso que selecciona entre diferentes opciones, evalúa, resuelve y realimenta para situaciones futuras. |              |
| b) Como un proceso producto de la experiencia, sin metodología específica.   |              |
| c) Otro ¿Cuál?   |              |

19. Califique cómo llega a acuerdos en los siguientes aspectos, calificando entre 1 y 5 siendo 1 la menor y 5 la máxima calificación.

| Aspecto  | Calificación |
|--|--------------|
| a) Acuerdo para resolver diferencias con colaboradores           |              |
| b) Acuerdo para resolver diferencias con proveedores             |              |
| c) Acuerdo para resolver diferencias con huéspedes               |              |
| d) Acuerdo para resolver diferencias con la competencia          |              |
| e) Acuerdo para resolver diferencias con la comunidad en general |              |
| Otro ¿Cuál?  |              |

20. Califique cómo el hotel atiende los siguientes aspectos, con una calificación entre 1 y 5, siendo 1 la mínima y 5 la máxima calificación.

| Aspecto  | Calificación |
|--|--------------|
| a) Capacidad del hotel en identificar, absorber, asimilar, transformar y aplicar o aprovechar conocimientos de fuentes externas. |              |
| b) Facilita el aprendizaje de todos los miembros, compartiendo la información y experimentando transformaciones continuamente.   |              |
| c) Confianza absoluta entre los colaboradores y roles claros que los compromete con el logro de los objetivos.                   |              |

21. Califique como atiende los siguientes aspectos en la gestión del hotel, siendo 1 la calificación mínima y 5 la máxima.

| Aspecto  | Calificación |
|--|--------------|
| a) Planeación y control anual del hotel  |              |
| b) Organización de procesos, procedimientos, funciones, organigrama, planta de personal, planta de cargos. |              |
| c) Estrategias de liderazgo en el corto, mediano y largo plazo.  |              |

Observaciones/Sugerencias

---



---



---

¡Gracias por su atención y colaboración!

No: \_\_\_\_\_ Fecha: \_\_\_\_\_ Hotel: \_\_\_\_\_ Ciudad: \_\_\_\_\_

## ANEXO 2 - ENCUESTA A HUÉSPEDES HOTELES AFILIADOS A COTELCO BOYACÁ

### Encuesta dirigida a huéspedes de los hoteles de Boyacá

#### Objetivo

Identificar la percepción frente a los servicios de hospedaje de los hoteles de Boyacá en la investigación **Desarrollo de un Modelo de Competitividad para el Sector Hotelero de Boyacá.**

#### Instrucciones

En este instrumento encuentra preguntas cerradas con una opción de respuesta que se deben contestar señalando con una X "Equis" y otras asignando calificación entre 1 y 5, y preguntas abiertas para contestar en el espacio en blanco. Sus respuestas serán tratadas de forma confidencial y no serán utilizadas para ningún propósito distinto a la investigación. El trato de la información se hará a nivel general y en ningún caso de manera particular.

#### Información General

Género  M  F

1. Lugar de procedencia:

|                               |                       |      |
|-------------------------------|-----------------------|------|
| Ciudad, municipio o localidad | Departamento o estado | País |
|-------------------------------|-----------------------|------|

2. Ocupación:     **a)** Empleado   **b)** Independiente   **c)** Jubilado   **d)** Estudiante   **e)** otro, ¿cuál? \_\_\_\_\_

3. Estado     **a)** Soltero   **b)** Casado   **c)** Separado   **d)** Viudo   **e)** Unión libre   **f)** Otro. ¿Cuál? \_\_\_\_\_  
civil:

4. Edad:     **a)** De 18 a 30 años   **b)** De 31 a 40 años   **c)** De 41 a 50 años   **d)** Más de 51 años.

5. Frecuencia de hospedaje en este hotel:   **a)** Primera vez   **b)** Entre 2 y 4 veces al año   **c)** Más de 4 veces al año.

6. Su nivel educativo es:

**a)** Sin estudios\_\_   **b)** Primaria\_\_   **c)** Secundaria\_\_   **d)** Técnica\_\_   **e)** Tecnológica\_\_

**f)** Universitaria\_\_, ¿Profesión?: \_\_\_\_\_

**g)** Posgrado\_\_. ¿En qué área?: \_\_\_\_\_

7. Motivo(s) de la estadía en Boyacá, es (son):

**a)** Negocios   **b)** Descanso   **c)** Recreación   **d)** Evento Académico   **e)** Evento Empresarial

**f)** Otro (s) \_\_\_\_\_

¿Cuál(es)?: \_\_\_\_\_

#### Información de Competitividad

Por favor califique de 1 a 5, siendo 1 la menor calificación y 5 la máxima calificación.

8. Califique los siguientes aspectos con respecto a la **ubicación del Hotel:**

| Aspecto  | Calificación |
|--|--------------|
| a) Facilidad de ubicación o localización del hotel |              |
| b) Vías de acceso al hotel                         |              |
| c) Condiciones del entorno del hotel               |              |
| d) Paisaje   |              |

9. Califique los siguientes **servicios** en su estadía con una calificación entre 1 y 5, siendo 1 la menor y 5 la calificación máxima.

| Aspecto  | Calificación |
|--|--------------|
| a) Precio de los servicios del hotel                           |              |
| b) Publicidad del hotel y sus servicios                        |              |
| c) Relaciones Interpersonales de los empleados con el huésped. |              |
| d) Imagen del hotel  |              |
| e) Información del portafolio de servicios del hotel           |              |
| f) Información turística local                                 |              |
| g) Información general.  |              |
| h) En términos generales todos los servicios del hotel         |              |

10. Califque su satisfacción con respecto a los servicios que le ofreció el hotel durante la estadía, indicando una calificación numérica entre 1 y 5, siendo 1 la mínima y 5 la máxima calificación.

| Aspecto   | Calificación |
|---|--------------|
| a) Servicio de habitación (comodidad para dormir y descansar) |              |
| b) Comodidad del baño   |              |
| c) Servicio de recepción y reservas                           |              |
| d) Caja de seguridad  |              |
| e) Restaurante  |              |
| f) Bar y discoteca  |              |
| g) Parqueadero  |              |
| h) Areas Comunes  |              |
| i) Zona de fumadores y no fumadores                           |              |
| j) Servicio de Botones  |              |
| k) Servicio de lavandería                                     |              |
| l)  |              |
| m) Servicio de habitaciones                                   |              |
| n) Servicio de Bilingüismo                                    |              |
| o) Servicio de guía turístico                                 |              |
| p) Servicio de Tours y recorridos turísticos.                 |              |
| q) Gimnasio   |              |
| r) Servicio de SPA y zonas húmedas                            |              |
| s) Eventos  |              |

11. Califque los siguientes aspectos de la infraestructura física del hotel de 1 a 5, siendo 1 la menor y 5 la calificación máxima.

| Aspecto                                      | Calificación |
|--|--------------|
| a) Apariencia del hotel                      |              |
| b) Estado de conservación de la construcción |              |
| c) Condiciones térmicas para el descanso     |              |
| d) Insonorización de la habitación           |              |
| e) Enchufes                                  |              |
| f) Aseo/limpieza                             |              |
| g) Decoración                                |              |
| h) Tendidos                                  |              |
| i) Toallas                                   |              |
| j) Pisos                                     |              |
| k) Iluminación                               |              |
| l) Aireación                                 |              |
| m) Sanitarios                                |              |
| n) <del>Amenities</del>                      |              |
| o) Estado del mobiliario.                    |              |

12. Califque su experiencia respecto a la atención al cliente que le ofrecieron los empleados del hotel.

| Aspecto                          | Calificación |
|----------------------------------|--------------|
| a) Amabilidad del personal       |              |
| b) Actitud de servicio           |              |
| c) Presentación personal         |              |
| d) Oportunidad de respuesta      |              |
| e) Conocimiento                  |              |
| f) Asertividad en la información |              |

13. Califque la calidad de los servicios obtenidos durante su estadía en el hotel

| Aspecto                            | Calificación |
|------------------------------------|--------------|
| a) Alimentación                    |              |
| b) Servicio de cafetería           |              |
| c) Diarios, revistas, magazines    |              |
| d) Lavandería                      |              |
| e) Servicio a la habitación        |              |
| f) Comodidad en términos generales |              |

14. Califique el componente Tecnología dispuesto por el hotel y al servicio de los huéspedes:

| Aspecto   | Calificación |
|---|--------------|
| a) Sala de trabajo para huéspedes / centro de negocios. |              |
| b) Sala de video juegos                                 |              |
| c) Equipos de cómputo en general                        |              |
| d) Audiovisuales  |              |
| e) Sonido ambiental en general                          |              |
| f) Equipos de iluminación en general                    |              |
| g) Sensores de luces                                    |              |
| h) Internet, Wifi                                       |              |
| i) Telefonía fija                                       |              |
| j) Puertas eléctricas                                   |              |
| k) Cortinas eléctricas                                  |              |
| l) Micrófonos inalámbricos.                             |              |
| m) Tarjetas chip de ingreso a la habitación             |              |
| n) Otros equipos y maquinaria de última tecnología      |              |

**Información condiciones del Hospedaje**

15. El hospedarse en este hotel resulta para usted:

| Aspecto                | Calificación |
|------------------------|--------------|
| a. Lujo                |              |
| b. Confort             |              |
| c. Lujo y confort      |              |
| d. Otro(s) ¿Cuál(es)?: |              |

A continuación, encontrará preguntas abiertas, por favor indique en los espacios en blanco y si requiere espacio puede responder al respaldo de la hoja citando el numeral de la pregunta.

16. Por favor señale sus preferencias en los siguientes aspectos:

| Aspecto                | Tipo |
|------------------------|------|
| a) Alimentos y bebidas |      |
| b) Hospedaje           |      |
| c) Deportes            |      |
| d) Descanso            |      |
| e) Esparcimiento       |      |
| f) Otro(s) ¿Cuál(es)?  |      |

17. ¿Conoció de productos turísticos que el hotel le ofreció durante su estadía?: \_\_\_\_\_

18. ¿Usted considera que el hotel esta actualizado frente a los cambios del mundo moderno?: \_\_\_\_\_

19. ¿Qué le gustaría encontrar en el hospedaje en Boyacá?: \_\_\_\_\_

20. Por favor indique que aspectos destaca positivamente del hotel donde se hospedó: \_\_\_\_\_

21. Por favor indique que aspectos mejoraría en el hotel donde se hospedó: \_\_\_\_\_

**Sugerencias/Recomendaciones:**

\_\_\_\_\_

¡Gracias por su atención y colaboración!

No: \_\_\_\_\_ Fecha: \_\_\_\_\_ Hotel: \_\_\_\_\_ Ciudad: \_\_\_\_\_