

Tourist Satisfaction and Loyalty Index

By

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Índice de Satisfação e Lealdade do Turista

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My family and, in
Glícia
With love.

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CHAPTER 1

INTRODUCTION

This chapter addresses aspects such as the contextualization of customer satisfaction and loyalty, importance and characterization of the tourism sector, the objectives of the research and its relevance, the methodology used for the development of the study and its general structure.

1.1- The contextualization of customer satisfaction and loyalty

Customer satisfaction is today the main criterion to determine the quality that is offered to the customer by products/services (Vavra, 1997). A matter of survival for companies in a globalized world.

Questions about customer satisfaction arise from the very concept of marketing, which incessantly seeks to adapt what is offered by the company and what customers need or want. According to Kotler (1999), satisfaction is the feeling of pleasure or disappointment resulting from the comparison of the expected performance of the product (or result) in relation to the person's expectations.

The study of customer satisfaction can be contextualized as part of the theory of consumer behavior. Started between the 60s and 70s, the field of customer satisfaction research has evolved, given its great importance for marketing.

For Oliver (1997), satisfaction is the response of the consumer's fulfillment, in the sense of evaluating whether the characteristics of the good or service meet his needs, providing a pleasurable level of consumption. Johnson et al. (2000) define satisfaction as a customer experience in the encounter with the product or service offered and is synonymous with the concept of consumer utility.

According to Desatnick and Detzel (1995), customer satisfaction is the degree of happiness experienced by the customer. That is produced by an entire organization—by every department, every function, and every person. Customers include external buyers of the organization's goods and services, suppliers, the local community, employees, managers and supervisors (and shareholders, if the organization is publicly traded).

Recently there has been a growing search for improvement in the production of goods and services, characterized by a liberalization of international trade, accelerated financial movement, technological advancement and customer demands.

It is essential for any organization to know the needs and expectations of its customers. The more competitive the market, the stronger the power of the consumer, which drives new configurations and the qualification of the service offer to the needs and expectations of its customers, and one must also observe what they value, being alert to the details that make the difference and analyzing which points can be improved and positively surprised.

For Vilares and Coelho (2005), at a global level, a test of a well-functioning market economy consists of assessing the extent to which consumers reward companies that satisfy them and penalize those that do not.

Although this idea was predominant in the view of many managers, some facts were contrary to this proposition. Research, such as that of Reichheld (1996) indicated that rates between 60% and 80% of customers who changed suppliers considered themselves fully satisfied or very satisfied. The relationship between satisfaction and loyalty began to be studied in greater detail.

For Johnson and Gustafsson (2000), loyalty is the customer's intention or predisposition to buy again. This concept became even more relevant as companies began to realize that the loyalty of their customers is what guaranteed future investment returns. Fornell et al (1992) state that loyal customers are not necessarily satisfied, but satisfied customers tend to be loyal.

However, satisfaction and loyalty should be considered as the main indicators of companies. In this sense, they are now considered requirements of the *Malcolm Baldrige national quality awards* in the United States and the *European Quality Award* in Europe.

The present study directs this knowledge, as it aims to identify the factors that affect tourist satisfaction and loyalty and is supported by the ideas of Johnson and Gustafsson (2000), who state that the quality of products and services, customer satisfaction and loyalty, should be studied in a systemic way in order to try to discover which quality characteristics influence customer satisfaction and which lead to their loyalty.

1.2- Characterization and importance of the tourism sector

Tourism is one of the most remarkable success stories of modern times (Theobald, 1998). Its large-scale growth began only in the 1960s and has registered a rapid and steady evolution in the last 40 years. The World Tourism Organization (UNWTO)¹ predicts an average annual growth rate of international tourist arrivals of around 4%, accounting for revenues of around US\$ 6,477.2 billion in 2008, with growth expected to US\$ 12,118.6 billion for 2016. According to the World Travel and Tourism Council (WTTC), tourism represents 10.7% of world GDP.

Tourism is certainly a factor of economic development. If implemented in a sustained manner, it provides long-term benefits to local economies. It involves a complex network of economic activities, such as transport, hotels, restaurants, entertainment and tourist services that motivate job creation and increase the profitability of the local population. On the other hand, it has a strong contribution to corrections of regional asymmetries, constituting for many regions the main pillar of their socio-economic development.

In many developing countries, tourism is now a strategic sector, or is evolving in this direction. Some are already mature destinations with a very developed tourist activity on which their economies are highly dependent. Most of these countries are already feeling the adverse effects of unplanned growth and are seeking to increase the added value of their tourism product.

Other countries are emerging destinations with a growing tourist flow. Your success will depend fundamentally on your ability to manage and control your growth. At the same time, potential destinations with little tourism activity are looking to develop their attractiveness.

Competition in this sector is becoming increasingly fierce. What determines competitiveness is not so much the existence of resources, but how they are used and the ability to respond to competition (Trindade, 1997).

The development model of this sector, both micro and macroeconomic, based exclusively on the factors of cost, selling price and exchange rate, will face major problems in the face of the new challenges that international competitiveness imposes.

Tourism in Brazil has not yet reached more expressive development rates due to the lack of a systemic and holistic vision and strategic thinking. In general, based on investments that aim only at short-term gains, destinations expand in a disorderly way, operate without coordination and lose quality in supply over time.

To attract tourists, every destination must be considered an element aimed at creating and serving customers. The task of tourism management is not to structure products, but to provide satisfactions that win over visitors. It should spread this idea everywhere in the city. The tourism sectors must become interdependent and interactive bodies; a group of units combined that form an organized whole in which the result is greater and better than the result that the units could have if they worked independently.

It is necessary for tourist destinations and/or tourist companies to adopt a position of dynamic adaptation to the markets, positioning themselves closer and closer to their customers. To provide tourism development with strategic thinking and vision with plans, measures and policies capable not only of consolidating and preparing the growth of the offer, but also capable of captivating the best customer and retaining them. This customer is so requested by the message of other destinations,

both those that, despite being mature, review their strategy, and the many emerging ones.

1.3- Objectives

This study aims to propose and test various modifications and improvements to customer satisfaction models and adapt them to the tourism industry so that they allow to measure the acceptance of the tourism product and its innovations, as well as the evolution of tourist preferences, with the aim of implementing a response to market requests and ensuring customer loyalty to the product. As well as containing a reflection on the importance of the client in the tourism sector, namely on the international perspectives of the city of Salvador, state of Bahia, Brazil.

The motivation for choosing this study is due to the importance of a tool for assessing and managing customer satisfaction adapted to the tourism sector. The justification for the choice is also due to the possible contributions that the results may offer to the development of the tourism sector in the country or region where this tool may be used. In this sense, using CRM tools and integrating marketing strategies, the idea of proposing an indicator for tourist satisfaction and loyalty arises.

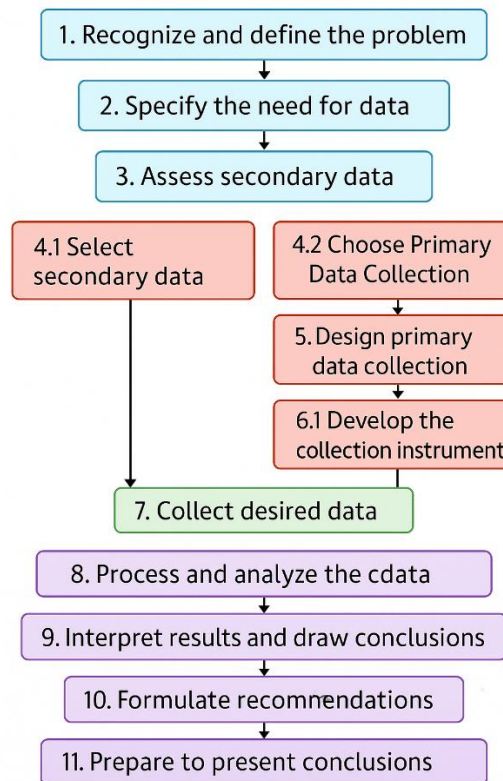
For this research, the following research hypotheses are verified:

- H01 – there is no significant positive linear relationship between the attributes of quality (nature, culture, accommodation, catering, safety, transport and prices) and tourist satisfaction
- H02 – there is no significant positive linear relationship between the attributes of tourist satisfaction, prices and loyalty

1.4- Research methodology

The research process for this dissertation involves a series of steps, starting with the identification of the problem and ending with the conclusions and recommendations of the study as shown in Figure 1.1.

Figure 1.1 – **The research process**



Source: World Tourism Organization:
Collection and Compilation of Tourism Statistics (1995)
in UNWTO (2005)

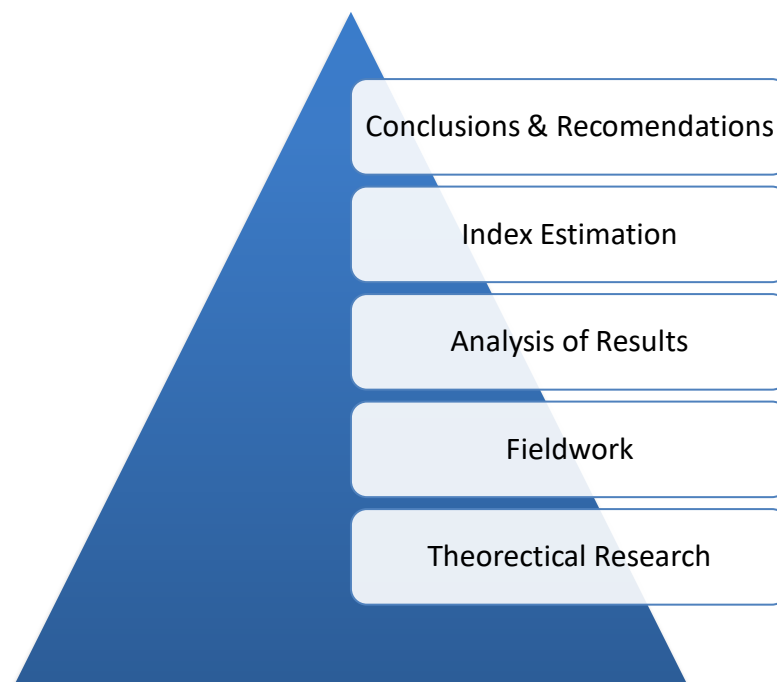
Based on the theoretical framework and objectives, a field research was designed as an instrument for data collection. The structured form was elaborated in Portuguese, English and Spanish based on the models of national customer satisfaction indexes, exploratory research carried out through the Critical Incident

Technique (CIT) and also from the analysis of studies on relevant constructs for the analysis of customer satisfaction and loyalty

The research had a descriptive quantitative characteristic carried out with 178 foreign tourists who stayed in the city of Salvador in July 2008. Data were collected on some dimensions of the tourist product such as accommodation, catering, transport, entertainment, prices and other services.

Subsequently, an analysis is made based on the results obtained in the research and elaboration of a proposal for the tourist satisfaction and loyalty index, and finally, the conclusions and recommendations of the study. Figure 1.2 illustrates the general methodology of the work:

Figure 1.2 – **General Methodology of the Dissertation**



1.5 Structure of the dissertation

This work is divided into six chapters. Chapter 2 presents the main concepts of customer satisfaction and loyalty, satisfaction in the tourism sector, the main methods of evaluating customer satisfaction and loyalty, as well as the national satisfaction indices and also the methods of evaluating the indices using structural equation models.

Chapter 3 describes the Structural Equation Models, the measurement models, the methods of estimating the models and the measures of validating the models.

Chapter 4 presents the methodology adopted by the Tourist Satisfaction and Loyalty Index, ISLT, which includes the methodology of the index, the stages for creation, the target population of the study, the sample size, the collection instrument, data collection and analysis techniques, as well as the procedures adopted for estimating the model.

Chapter 5 shows the analyses and interpretations of the field research, diagnosing the profile of tourists, identifying the factors that influence their satisfaction and loyalty, making a broad discussion about the structural equation models, in addition to proposing an estimate for the ISLT parameters that relate these factors.

Chapter 6 is composed of the conclusions about the studies carried out, emphasizing the aspects that deserve to be highlighted, the recommendations and limitations of the work, as well as indications for future studies.

CHAPTER 2

CUSTOMER SATISFACTION AND LOYALTY

In this chapter, the main concepts and methods of evaluating customer satisfaction and loyalty will be presented. The methods that will be addressed are based on three categories of models: (1) models based on the Nonconformity Paradigm; (2) models based on multiple satisfaction indicators; and (3) models based on structural equations. Topics aimed at the tourism sector will also be addressed.

This chapter is organized into four sections. Section 2.1 presents concepts about customer satisfaction and loyalty. Section 2.2 describes employment and the importance of this type of assessment in the tourism sector. Section 2.3 presents a discussion of the main methods of assessing consumer satisfaction. Section 2.4 concludes with the presentation of the main national customer satisfaction indexes.

2.1- Concepts about Customer Satisfaction and Loyalty

According to Fornel et al. (1995), the concept of Customer Satisfaction occupies the central position in the reflection and practice of marketing. Satisfaction is the main result of this activity and serves to link the processes that culminate in purchase with the phenomena related to post-purchase, such as: changes in attitude, repeat purchases and brand loyalty. According to Vilares and Coelho (2005), customer satisfaction should be considered as an asset of the company and be recognized as such in its accounting, but for this it should be measured in monetary terms, with sufficient reliability.

In a competitive environment, a company's profits can be increased by differentiating its products or services, seeking to satisfy the desires and needs of customers. In an environment where competition is fierce and where the customer is more informed and demanding, the constant evaluation of satisfaction brings positive reflections on the financial results and the level of performance of the company from the point of view of its customers.

These views have been improved since the last century. It was during the 1980s that companies became aware of the importance of customer satisfaction as a key variable of subsequent behaviors. This evolution was due to the high increase in competitiveness in several markets and also to the emergence of Total Quality Control (TQC) as a paradigm of business management. In this decade, the focus of research shifts to estimating the meaning for customers of quality of service and to implementing strategies aimed at fulfilling customer expectations.

The concept of quality is abstract, difficult to define and, sometimes, with diverse and distinct contents. However, characters considered quality gurus defined the quality of different approaches. Quality as an objective characteristic of the

product and quality as the results of thoughts, feelings and sensations of contact with objective reality, that is, a subjective quality.

In conceptual terms, there are numerous definitions for Customer Satisfaction, attributed by several authors from different areas. However, these definitions include three characteristic elements: nature of the psychological state; nature of the experience; and the relative character of satisfaction. The first is an evaluation of an emotion, the second is a judgment after the purchase and the last reflects the fact that evaluation is a comparative process.

According to Kotler (1999), satisfaction consists of the feeling of pleasure perceived about a product in relation to the buyer's expectations. A consumer is satisfied when the evaluation of the chosen alternative corresponds to his previous expectations. Otherwise, there is dissatisfaction.

According to Brown (1992) cited Koskela (2000), customer satisfaction is the state in which customers' needs, desires, and expectations regarding the product or service are recognized or exceeded as a result of repeat purchase, loyalty, or favorable interpersonal communication (word of mouth).

Another approach is presented by Vavra (1997) and Johnson et al (2000), in which customer satisfaction is differentiated between satisfaction with the transaction-specific and satisfaction as a result of an accumulated perception. Satisfaction with the accumulative process is based on an overall evaluation of all customer experiences with products or services.

On the other hand, satisfaction with the specific transaction refers to the evaluation made after a purchase, in other words, it indicates how satisfied the customer is with the shopping experience. Originally, marketing interest was based on consumer behavior during a specific transaction. However, the definition of

cumulative process consists of the experience and perception of the product or service, including factors such as experience with respect to quality, marketing activities, image and expectations, and is a result-oriented or process-oriented definition.

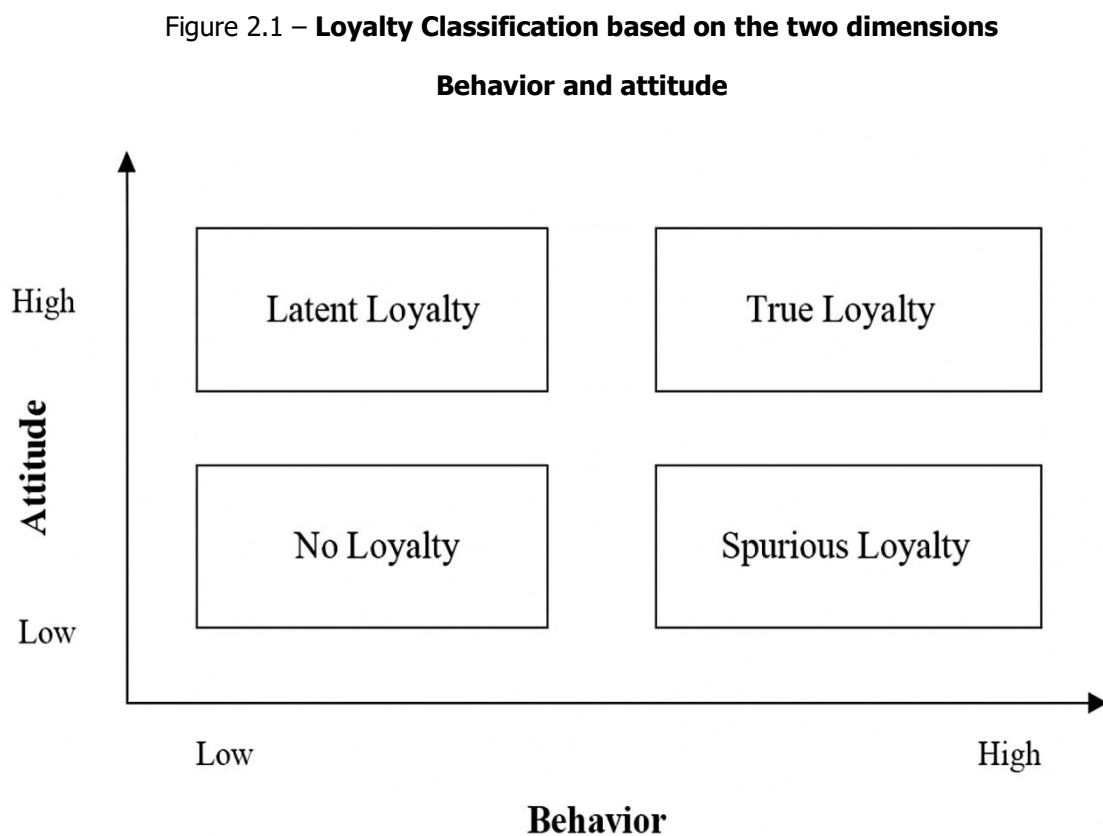
Process-oriented definitions bring a broader view of satisfaction, insofar as it is conceived from the perspective of the consumer experience as a whole, because it draws more attention to perspectives of perceptual, evaluative, and psychological processes as generators of satisfaction. Outcome-oriented definitions conceptualize consumer satisfaction with the outcome of a consumer experience. In this sense, it is also defined as "the customer's response to an assessment of the perceived discrepancy between expectations and the current performance of a product after consumption.

There are also definitions that are classified based on satisfaction surveys that focus more on the performance of products and their attributes than on satisfaction itself.

The concept of loyalty has different definitions in the fields of behavioral sciences and psychology. Prior to the 1970s, the concept of loyalty was understood only as a repeated shopping pattern, portraying a purely behavioral approach. According to Jacoby and Kyner (1973), it is the non-random purchase, in a period of time, of a specific brand, among a set of brands evaluated by the customer. This psychological approach was reinforced when Jacoby and Chestnut (1978) concluded that the loyalty associated with the act of repurchasing a specific product is not consistent because the consumer may be loyal to multiple brands that can be substituted for each other.

The propositions of Jacoby and Chestnut (1978) were contested by Dick and Basu (1994) who presented the concept of loyalty based on the psychological approach, with emphasis on cognitive, affective and conative aspects, in addition to introducing a discussion about relative attitude. Relative attitude is understood as the degree to which the customer's evaluation is one brand dominated over the other.

Based on the behavioral and emotional dimensions (attitude), Dick and Basu (1994) classify loyalty into four types (Figure 2.1):



Source: Adaptation of the Structure of the Model by Dick and Basu (1994)

True loyalty is one in which the customer has a high relative attitude towards a particular brand and a high repurchase behavior. Hidden loyalty presents a strong preference towards the brand, but a low repurchase behavior. False loyalty to repurchase occurs in situations where there are no alternatives to choose or the choice is made based on past habits. In this type of loyalty, the consumer does not

perceive significant differences between the brands in the market. Zero loyalty occurs when consumers do not differentiate between brands and show low repurchase behavior.

According to Oliver (1997), loyalty also presents itself in two distinct forms: proactive and situational. In proactive loyalty, the customer often repurchases the brand, not considering the alternatives. In situational loyalty, alternatives are not considered, but the choice arises from a special situation.

2.2- Customer Satisfaction in the Tourism Sector

According to the World Tourism Organization, UNWTO (2004), in order to compete in the tourism market, organizations in the public and private sectors must know who their customers are and what they want, they must be able to communicate the availability of their tourism products and services to potential customers and convince them to come back to their products or services.

The interest in the study on satisfaction and loyalty in the tourism sector is directly related to the impact in terms of competitiveness of the quality of tourist products and destinations, in a scenario characterized by the globalization of the offer and by an increasing degree of demand and knowledge of tourists in relation to the options that are suggested to them.

The products of tourism are made up of a series of processes experienced in a more or less intangible way. Such processes constitute a complex network of services, with many participants and quite diverse. In general, the tourist product can be classified into two categories.

On the one hand, and at the local level, organizations in the tourism sector offer a wide and diversified set of products and services that are accommodation,

restaurants, transport, entertainment, among others. These types of products can be objects of commercialization and integrated consumption, or presented in isolation, embodying the essential bases of the tourist offer of a given region, and as such should be understood as potential links in the value chain that the tourist experiences and evaluates during his stay in a tourist destination.

On the other hand, we have a global product, which is the result of a perspective of integration, at the regional level, of all the reality offered and experienced by tourists. It is a product that is assumed as the combination of tangible and intangible components, which goes beyond the specificities of the sector and must be considered in terms of the macroeconomic design of the product.

In this scenario, satisfaction with the tourist product should be equated taking into account the two product perspectives mentioned. Thus, it will be possible to equate satisfaction in terms of specific products, limiting its scope to the supplier organizations and, at the same time, analyzing satisfaction with a comprehensive and global perspective. In the latter case, we are thinking of satisfaction with the overall product or, if you prefer, the tourist destination.

In one circumstance or another, tourist satisfaction is deeply dependent on the effort and the ability to cooperate between public and private organizations that contribute to the configuration of the products and destinations in question. Objectively and rigorously measuring tourist satisfaction is of central importance in the strategic decision-making process for the sector.

From the literature review it can be concluded that studies on tourist satisfaction and loyalty are relatively recent, resulting from the concerns that those responsible for the sector and organizations, with a view to increasing the competitiveness of tourism products.

The tourism company is currently struggling with the increasing competitiveness of new destinations, the globalization of markets and the transformation of demand. The strategic options for differentiation are within the framework of a quality and positioning policy.

Figure 2.2 – **Brands of Tourist Destinations**



There are many cases of application of satisfaction assessment models in the tourism sector, with special emphasis on the hotel sector. Tourist destinations are still at an embryonic stage in terms of the application of tourist satisfaction management models. However, the growing sensitivity to the need for customer satisfaction, approached from a global experience perspective, has stimulated academic research in this case as well.

There are some authors who have presented indications to measure the degree of satisfaction with the tourist experience and with the tourist destination:

Fishbein's model (cited by Silva et al, 2001) is intended to evaluate, a priori, the perceptions of tourist destinations or regions. According to the model, the tourist's attitude towards the object is a function of the quality of valued attributes that the tourist perceives the object/region to have and the importance of these attributes for him.

Goodrich's model (cited by Silva et al, 2001), created from Fishbein's model, developed a model to position the attributes of a tourist destination. In 1978 he evaluated a priori the perceptions of nine holiday destinations. Respondents rated 10 attributes in order of importance on a 7-point scale, based on relative importance depending on the decision of where to vacation.

The attributes identified were: historical/cultural interest, landscape/nature, catering, entertainment, accommodation, shopping facilities, golf and tennis facilities, sports facilities, pleasant attitudes, rest and relaxation. The nine regions were analyzed in relation to these attributes in order to understand the extent to which the destination was possessed of the attribute. Each attribute has been multiplied by its importance in order to know the strengths and weaknesses of each destiny.

One limitation of the model stems from the fact that it does not distinguish between relative contributions of importance and weightings of perceptions. Thus, a weighting of 3, on the scale of importance, and a weighting of 5, on the scale of perception, a priori, would have the same total weighting of 15 as a weighting of 5, on the scale of importance, and a weighting of 3, on the scale of perception.

Although these two combinations have the same result, the quality implications are substantially different. The first combination indicates a very satisfactory quality situation (the performance weight is relatively high on a relatively

minor attribute), while the second indicates a source of concern in that the attribute is relatively important and the performance weight is relatively low.

Witter's model (cited by Silva et al, 2001) applied Fishbein's model and Goodrich's attributes in a study on evaluative comparisons of a tourist destination. Respondents were tourists, who were asked to rate attributes based on their experiences.

Witter would add a new stage to Fishbein's model, by adding the main weights of perception-time-importance and attributes, comparing the weightings of meaning, of tourists and retailers. This additional stage introduces the compensatory notion that trade-offs can occur between a low value in one attribute and a high value in another. Thus, the superior performance of one attribute can compensate for the inferior performance of another attribute.

An alternative method to compare the importance and performance of attribute dimensions was proposed by Martilla and James in 1977 (cited Silva et al, 2001). This is an importance/performance analysis. In the case of this method, the importance and attribute weights are distributed on a vertical and horizontal axis, respectively. It follows that each item is categorized into one of the four quadrants. This pictorial representation has the advantage of being easily interpreted.

The UNWTO considers the creation of indicators to be an essential activity for tourism, as they provide relevant information for decision-making in the management of tourist destinations.

Quality corresponds to the perception that tourists have about the extent to which their expectations have been met with their tourist experience. However, for

the satisfaction of all those involved in the tourism process, it is essential to build a quality management system.

As for the methodologies used for quality management, three take a prominent place because they are very widespread and used:

- **Star rating:** Implemented in many countries, where there are ratings developed by business associations. More than true quality systems, they are instruments that facilitate the approach to the customer. The following scale is generally used:

★☆☆☆☆ Simple

★★☆☆☆ Economical

★★★☆☆ Tourist

★★★★☆ Superior

★★★★★ Luxury

- **ISO 9000:** Quality standards considered by several authors, but of little use to the tourism sector.
- **EFQM model:** Although rarely used, this model is increasingly used in tourism. There are already some success stories in tourist destinations.

According to Petrocchi (2004), the success of a tourist destination is linked to the assembly of a quality network shared by all those who, directly or indirectly, are involved in the provision of services to visitors.

In March 2007, the World Economic Forum announced and published the results of the Travel & Tourism Competitiveness Index (TTCI), or in Portuguese,

Tourism Competitiveness Index. This index developed by the World Travel & Tourism Council investigates various aspects of competitiveness for tourist destinations.

2.3- Methods of evaluating customer satisfaction

Customer satisfaction surveys aim to provide information about customers and how customers evaluate the services and products offered. Managers use this information to analyze the elements of their performance and implement changes necessary to increase customer satisfaction. In this sense, the data analysis of these surveys should provide subsidies to identify which attributes are important to the customer in order to improve their performance.

There are several methods that can be used to evaluate customer satisfaction. The most widespread are those based on the Paradigm of Nonconformity, Oliver (1997), also called descriptive methods. A second category of models takes into account other components of shaping customer satisfaction by extending this paradigm. Another category is based on Structural Equation Models, which sophisticates the processing of the results.

Models based on the Nonconformity Paradigm are, for example: models based on the relationship between expectation and performance; in perceived performance; in importance-weighted performance; and in the relationship between minimum acceptable level, desired level and performance.

For Marchetti and Prado (2001) models based on the relationship between expectation and performance, the evaluation of customer satisfaction can be obtained by measuring the differences in perceived performance in relation to the expectations of each attribute considered relevant to the research. Algebraically, the

customer satisfaction score of a given item j (Sat_j) can be obtained using equation 2.1.

$$Sat_j = \frac{1}{n} \sum_{i=1}^n (P_i - E_i) \quad (2.1)$$

Where: n is the number of valid cases, P_i is perceived performance and E_i is expectation, both measured on the same performance scale (usually on a Likert scale)

The more positive the results, the more satisfied customers will be. This approach addresses the problem by objectively assessing non-conformity. With individual scores, aggregate scores can be calculated depending on the dimensional structure in which it is being developed. In this context, Parasuraman et al (1988) used a relationship between expectations and performance to indicate the Perceived Quality, in their model, SERVQUAL in five major dimensions: tangibility, accessibility, empathy, guarantee and reliability.

The models based on perceived performance score are obtained directly from the performance evaluation items of the SERVQUAL scale. In this case, the performance analysis is made from a Likert of 5 to 7 points. This model is known as SERVPERF.

The Global Customer Satisfaction Score is obtained from the average of the individual scores of perceived performance according to equation 2.2.

$$Sat = \frac{1}{n} \sum_{j=1}^n \frac{\sum_{i=1}^k P_{ij}}{k} \quad (2.2)$$

Where: P_{ij} is the average of the perceived performance of the valid cases of item i in dimension j , k is the number of items in dimension i and n is the number of dimensions selected for measurement.

Another situation is when the weighting of performance scores is used by an indicator of the importance of the attribute. Some authors used the loads of factor

analyses as weights of the respective dimensions, others used multiple regression coefficients considering the result of Global Satisfaction and Perceived Quality as dependent variables and the other items as dependent variables.

According to Marchetti and Prado (2001), the models based on the Minimum Acceptable Level, Desired Level and Performance Ratio, the possibility of the consumer not having a single level of expectations for each attribute must be taken into account. This model recognizes the existence of a tolerance zone for the minimum acceptable level and the desirable level of performance, which is the minimum acceptable level and the desirable level of performance, which is the level at which the consumer would like to receive the services. In this model, satisfaction is calculated by subtracting perceived performance, minimum level, and desired level of services, attribute-by-attribute, according to equation 2.3.

$$SatD_j = \frac{1}{n} \sum_{i=1}^n (P_i - ND_i) \quad (2.3) \quad SatM_j = \frac{1}{n} \sum_{i=1}^n (P_i - NM_i)$$

Where P_i is perceived performance, ND_i is the desired level of item j , Nm_i is the minimum desired level of item j and n is the number of valid cases of item j .

The second category of methods refers to models based on the Multiplicity of Satisfaction Indicators, where there is the hypothesis that Customer Satisfaction is formed by a wider range of constructs. In this model, each item is considered as an indicator of a construct that forms Satisfaction, assuming that they all have the same weight. The assumption is that there is one-dimensionality in this group. According to Marchetti and Prado (2001), the global satisfaction score can be obtained according to equation 2.4.

$$SatD = \frac{1}{n} \sum_{i=1}^n (I_i) \quad (2.4)$$

Where: I_i is the score indicated in each of the items of the scale.

When satisfaction cannot be directly assessed by the customer, structural equation-based methods are used. This third category of methods consists of equations that relate latent variables, i.e., constructs that cannot be observed directly, and are therefore measured or represented through other variables called Indicators.

Through structural equation models, constructs such as perceived quality, customer expectations, perceived value, own satisfaction, customer complaints, loyalty can be evaluated, as well as relationships between them. Structural equation models combine factor analysis techniques with regression techniques and are useful for solving social science problems, being widely used in marketing. A more detailed analysis of structural equation models will be presented in section 2.5 of this chapter.

The satisfaction score is obtained through the weighting of the scores of attributes of evaluation of a product/service, by the coefficients resulting from the analysis of the structural equations. The main advantages of this method are that the weighting is not arbitrary, but calculated based on the response patterns of the interviewees, and it allows the separation of the constructs of satisfaction from their antecedents and consequences. This allows the evaluation of the relationships between the constructs and also between each construct and its indicators. In this model, the Satisfaction score can be obtained according to equation 2.5.

$$Sat = \frac{\sum_{i=1}^n (p_i \cdot \bar{x}_i) - \sum_{i=1}^n (p_i \cdot Min(x_i))}{\sum_{i=1}^n (p_i \cdot Max(x_i)) - \sum_{i=1}^n (p_i \cdot Min(x_i))} \times 100 \quad (2.5)$$

Where: p_i are the weights calculated for the indicators of the latent variable satisfaction, $\bar{x}_i$ are the mean scores obtained from each of the indicators, $Min(x_i)$ and

Max(xi) are the minimum and maximum values assumed in the scales of the indicators. $\bar{x}_i$

2.4- National Customer Satisfaction Index Models

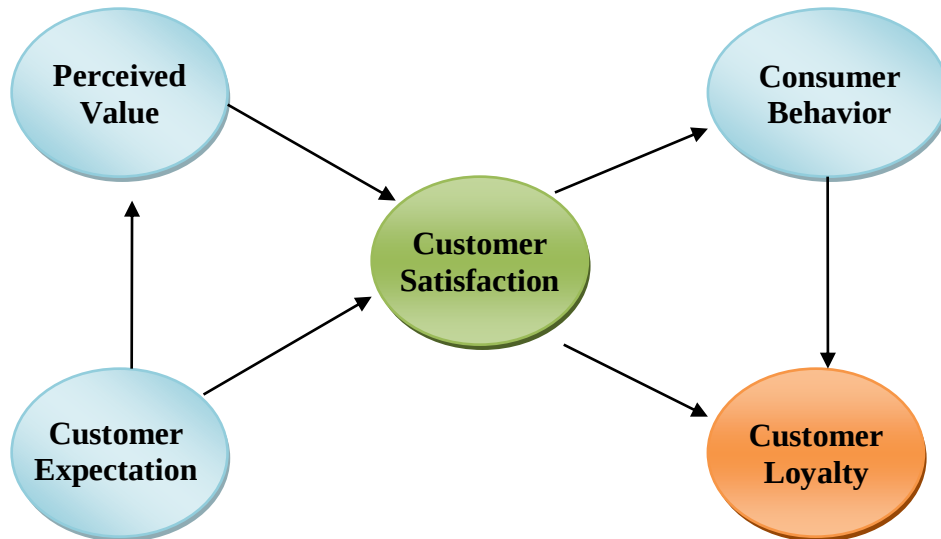
2.4.1 – Swedish Model (CSB)

In order to assess customer satisfaction at a national level, the first customer satisfaction index called the Customer Satisfaction Barometer (CSB) (Fornell, 1992) emerged in Sweden at the end of the 80s.

According to Fornell (1992), the customer satisfaction barometer was designed with the aim of developing the following information: comparisons between industries, comparisons between companies, comparisons over time, predictions regarding performance and answers to specific questions, such as the importance of the various industries for consumer satisfaction, the effects of quality and price, the impact of consumer expectations, consumer complaints, and the effects of word-of-mouth marketing.

The CSB model proposed by Fornell *et al.* (1992) treats customer satisfaction as a central construct of the model, whose relationships with its antecedents (expectations and value perceived by the customer) and consequent (customer behavior and loyalty) are hypotheses of the model. The Swedish model is structured according to Figure 2.4.1.

Figure 2.4.1 – Customer Satisfaction Barometer Model – SCSi

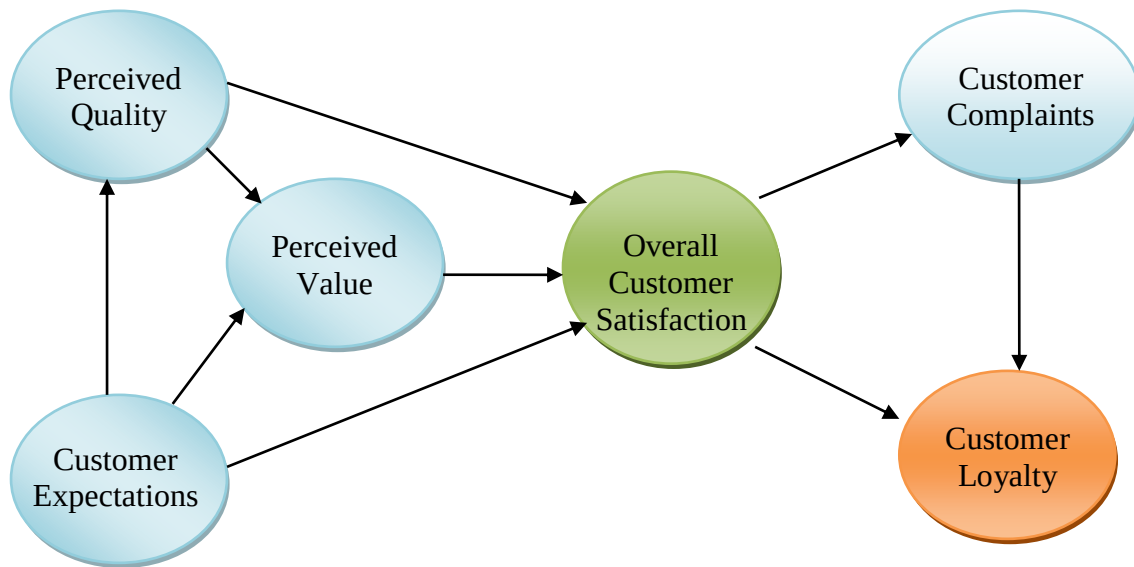


Source: Johnson et al (2000)

2.4.2 – American Model (ACSI)

Based on the Swedish model, in 1994 the American Customer Satisfaction Index (ACSI) emerged in the United States, developed in a joint work between the National Center for Quality Research at the University of Michigan – National Economic Research Associates (NERA) at the University of Michigan Business School, and the American Association for Quality Control – American Society for Quality (ASQ).

Figura 2.4.2 – American Customer Satisfaction Index (ACSI) Model



Source: Johnson et al (2000)

The model includes six components: perceived quality, consumer expectation, perceived value, satisfaction, loyalty, and consumer complaint. The antecedents of satisfaction in the ACSI (Figure 2.4.2) are perceived quality, expectations and perceived value, and have as consequences of satisfaction the loyalty and complaints of the consumer.

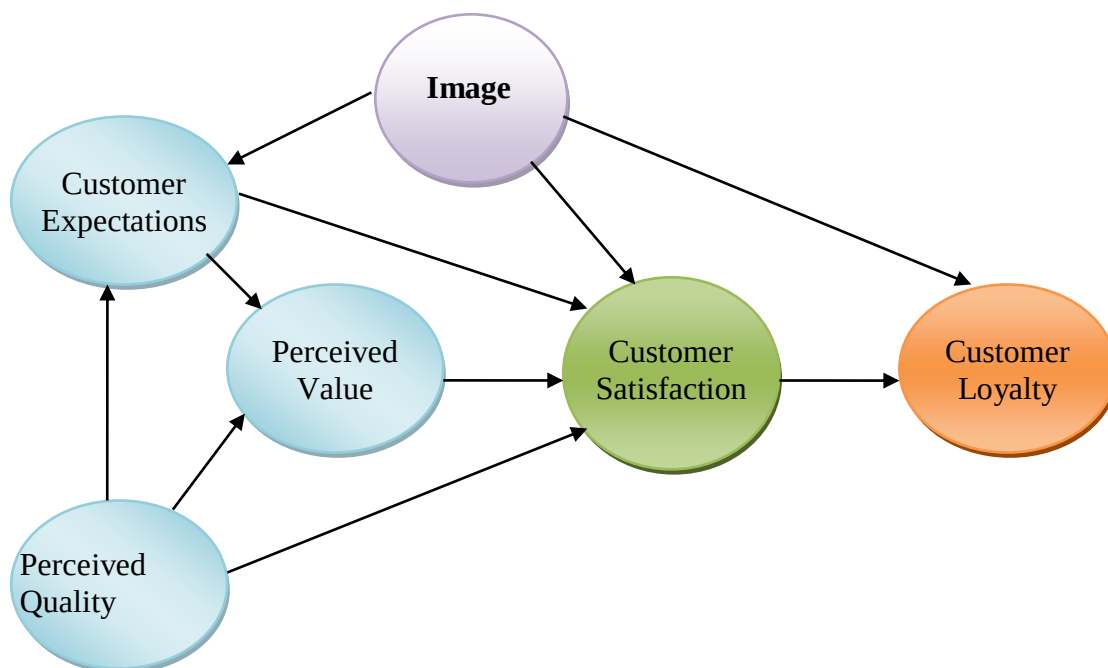
2.4.3 – European Model (ECSI)

In 1999, in the European Union, 12 countries worked together with the European Organization for Quality (EOQ), the European Foundation for Quality Management (EFQM), the European Academic Network for Consumer-Oriented Quality and assisted by the European Commission (Directorate General III), in a pilot survey that led to the European Customer Satisfaction Index (ECSI).

In the European Model shown in Figure 2.4.3, the constructs consumer expectations, perceived quality, perceived value, consumer satisfaction and loyalty

are modeled in the same way as the ACSI model. The differences between the European and the American models are: the European model includes the company image modality as an antecedent of satisfaction, directly influencing consumer expectations, satisfaction and loyalty, and excluding the construct of consumer complaints as a consequence of satisfaction.

Figure 2.4.3 – European Customer Satisfaction Index (ECSI) Model



Source: Johnson et al (2000)

2.4.4 – Norwegian Model (NCSB)

In 1996, Norway also instituted a national satisfaction index called the Norwegian Customer Satisfaction Barometer (NCSB). This model is analogous to the American model, with the exception of the inclusion of the image component and its relationships with customer satisfaction and loyalty.

Based on the discussion and revision of existing models, Johnson et al. (2000) proposed a new model with a series of modifications and recommendations to the previous models.

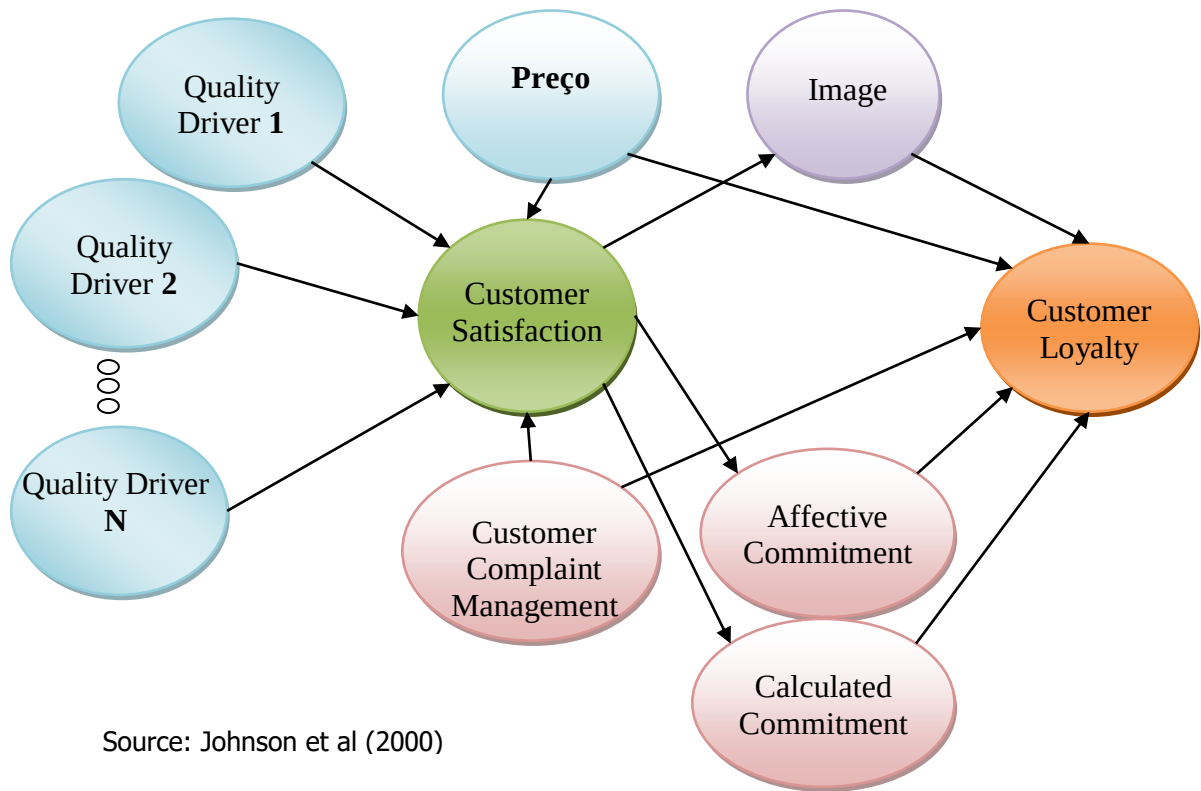
The first modification is the removal of the customer expectation construct present in previous models and the inclusion of the image. The effect of satisfaction on the image reflects in the increase in the degree of customer shopping experience and in the consistency of experiences over time. The second modification is the replacement of the construct Complaints for Complaint Management, having this direct impact on satisfaction. The third change is to eliminate perceived quality and perceived value. The authors recommend replacing the perceived value with the perceived price.

The authors Johnson et. et al. (2000) propose the use of two constructs of commitment relationship: affective commitment and calculated commitment. Affective commitment is linked to emotional relationships between the customer and the companies, while calculated commitment is based on rationality and economic aspects.

The last recommendation Johnson et. al (2000) is the relationship of the direct effects of price on loyalty. The Norwegian model proposed by Johnson et. al (2000) is structured according to Figure 2.4.4.

These models are intended in a general way to offer a comparable measurement index for customer satisfaction between organizations, branches of activity, sectors and countries, in addition to indicating the relationships of this construct with its main antecedents (expectations, perceived quality, perceived value, image, etc.) and consequent (loyalty, customer behavior, complaints, etc.).

Figure 2.4.4 – Proposed Norwegian Model



Source: Johnson et al (2000)

CHAPTER 3

STRUCTURAL EQUATION MODELS

This chapter emphasizes Structural Equation Models, in particular the models used in national customer satisfaction and loyalty indices, which are currently considered as main economic indicators.

3.1 – Structural Equation Models

Structural equation models are used to test a theory of causal nature between a set of variables. For Customer Satisfaction, the theory states that performance influences Nonconformity and that this can lead to Satisfaction. This technique offers the researcher the possibility of investigating the explanatory power of the predictor variables in relation to the dependent variable and also evaluating the importance of these variables.

In general, customer satisfaction and loyalty indices use a model with several equations that intend to explain the complex relationships between the set of variables that are interdependent. From this analysis it is possible to determine the

importance of the components of the quality of the product or service on customer satisfaction and loyalty. Structural modeling is known, in the context of customer satisfaction surveys, as causal modeling, or structural variable with latent variations, or even more generically, as structural equation modeling, or SEM (Structural Equation Modeling).

Structural equation models are a vast class of models that include latent variables, measurement errors in dependent and independent variables, multiple indicators, reciprocal causes, simultaneity, and interdependence. The methods include as special cases: procedures for confirmatory factor analysis, multiple regression, path analysis, time-dependent data models, covariance structure.

3.2 – The structural model

Covariance structures can be defined by specifying the population variances and covariances of the observed variables as functions of the parameters $\theta_1, \theta_2, \dots, \theta_t$, to be estimated from the data, i.e., $\sigma_{ij} = \sigma_{ij}(\theta)$, or in matrix form, $\Sigma = \Sigma(\theta)$. The assumptions of this model are: the functions $\sigma_{ij} = \sigma_{ij}(\theta)$ and their respective first-order derivatives are continuous; the matrix Σ is positive-defined at each point θ of the admissible parametric space; the distribution of observed variables is multivariate with its mean vector μ and its covariance matrix unconstrained. In most cases, the distribution of data is expected to be Multivariate Normal. $\Sigma(\theta)$

The structure of correlations can be defined according to Equation 3.1. The population correlations of the observed variables are functions $\rho_{ij} = \rho_{ij}(\theta)$ of θ .

$$\Sigma = D\sigma P(\theta) D\sigma \quad (3.1)$$

Where: $D\sigma$ is the diagonal matrix of the population standard deviations $\sigma_1, \sigma_2, \dots, \sigma_p$ of the observed variables, considered as free parameters, and $P(\theta)$ is the correlation matrix. The covariance structure 3.1 has parameters $\sigma_1, \sigma_2, \dots, \sigma_p, \theta_1, \theta_2, \dots, \theta_t$, which are estimated from the data.

The complete structural equation model consists of a system of linear equations that can be composed of two subsystems: the latent variable model or structural model, which specifies causal relationships between latent (or unmeasured) variables, and measure models that specify the relationships between the (directly observed) measurement variables and the latent variables.

The structural equation model with latent variables is defined according to equation 3.2 proposed by Bollen, 1989.

$$\eta = \alpha + \beta\eta + \Gamma\xi + \zeta \quad (\text{Structural Model}) \quad (3.2)$$

$$y = \mu_y + \lambda_y\eta + \varepsilon \quad (\text{Y Measurement Model})$$

$$x = \mu_x + \lambda_x\eta + \delta \quad (\text{Measurement Model of X})$$

The random vectors $\eta' = (\eta_1, \eta_2, \dots, \eta_m)$ and $\xi' = (\xi_1, \xi_2, \dots, \xi_n)$ are not observable and represent the latent dependent (endogenous) and independent (exogenous) variables respectively. The vector α represents the intersection of the structural equation, but they do not appear in the model if the latent and observed variables are taken deviated from their respective means. The matrices $\beta(m \times m)$ and $\Gamma(m \times n)$ are the matrices of coefficients and $\zeta' = (\zeta_1, \zeta_2, \dots, \zeta_m)$ is the vector of residuals or errors in the structural equation. The effects of β represent the causal effects represent the direct effects of the latent dependent variables on other latent dependent variables, and the elements of Γ represent the effects of the latent independent variables on the latent dependent variables.

The equations of the measurement models contain the observable vectors $y'=(y_1, y_2, \dots, y_p)$ and $x'=(x_1, x_2, \dots, x_q)$. The vectors μ_y and μ_x are the interpreters of the equation (averages of the variables). The vectors ε and δ represent the measurement errors of y and x respectively. The matrices $\lambda_y(p \times m)$ and $\lambda_x(q \times n)$ are the regression matrices of y in η and x in ξ respectively. It is convenient to call y and x observed variables and η and ξ latent variables.

The structural equation model also encompasses other types of models. When the variables y and η are not specified, the model will be summarized in equation 3.3, that is, in a classical model of factor analysis.

$$x = \lambda_x \xi + \delta \quad (3.3)$$

When the variables x and ξ are not specified, the model will be summarized in equation 3.4, i.e., also a classical model of factor analysis with the advantage of being able to manipulate the relationships between the factors by specifying the structure of the matrix β .

$$\eta = \beta \eta + \zeta \quad (3.4)$$

$$y = \lambda_y \eta + \varepsilon$$

If the variable x is not specified and the matrix $\beta=0$, then the model transforms into a second-order confirmatory factor analysis model according to equation 3.5.

$$y = \lambda_y (\Gamma \xi + \zeta) + \varepsilon \quad (3.5)$$

When the matrices $\lambda_y = \lambda_x = I$ and the matrices $\varepsilon = \delta = 0$, then the model becomes a model of independent systems according to equation 3.6.

$$y = \beta y + \Gamma x + \zeta \quad (3.6)$$

Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) are two distinct methods of factor analysis. The differences between the two are that in the exploratory analysis one does not assume an a priori model, the number of latent

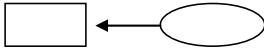
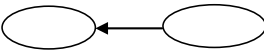
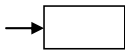
factors is not imposed, and typically all latent variables influence all observed variables. Also, measurement errors are not allowed to be correlated and it is common for the parameters to be underidentified. In contrast, Confirmatory Analysis is constructed a priori, with the number of latent variables being defined by the researcher; If a latent variable influences any observed variable, this relationship is specified. Some direct effects of the latent variable on the observed variable are fixed at zero or sometimes at a constant. Measurement errors can be correlated. The covariances of latent variables can be estimated and, for this, it is necessary that the parameters are identifiable.

3.3 – Path Analysis

The first step in structural equation modeling is the specification of multivariate hypotheses using path diagrams and simultaneous equations. Path analysis is a graphical representation of a structural equation model. The main advantage of this representation is to be able to graphically visualize the relationships between the variables. The emphasis is to describe the total structure of the links between the dependent and independent variables, as well as to evaluate the logical sequence of the structural model.

To better understand the path diagram, it is necessary to know the symbols used that are represented in Table 3.1.

Table 3.1 – **Symbols used in the path diagram**

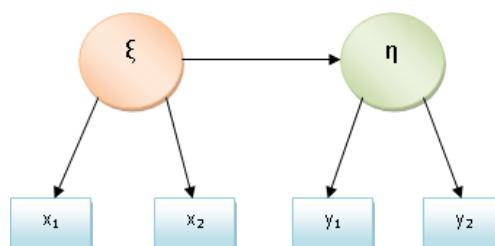
Símbolo	Representação
	Variável Latente
	Variável de Medida
	Impacto da variável de medida sobre a variável latente
	Impacto da variável latente sobre outra variável latente
	Erro de predição da variável latente
	Erro de medição associado à variável de medida
	Relação direccional
	Relação não direccional
	Associação não assinalada entre duas variáveis

3.4 – Measurement models

The measurement model associates each latent variable with a set of indicators, called measurement variables, which are obtained directly through the questionnaire applied to the clients of the organization studied.

According to Vilares and Coelho (2005), three types of measurement models can be specified: reflective, formative and mixed. Each of these models corresponds to a way of relating latent variables to measurement variables.

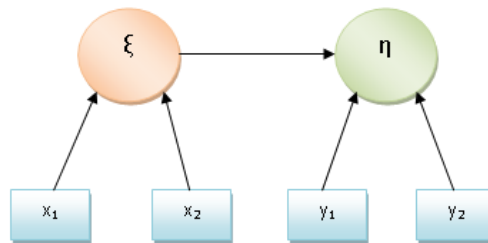
Figure 3.4.1 – **Reflective Model**



Source: Vilares and Coelho (2005)

Figure 3.4.1 represents the reflective model, where the directly observed indicators are a reflection of latent variables. In this case, the indicators are correlated with each other.

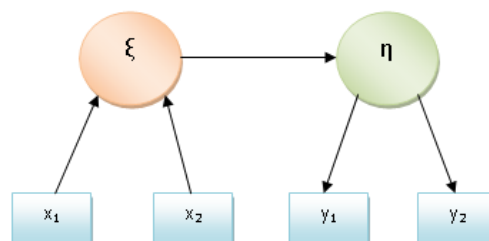
Figure 3.4.2 – **Training Model**



Source: Vilares and Coelho (2005)

Figure 3.4.2 illustrates the formative model where it is assumed that the values of the latent variables are formed through combinations of the values associated with the measurement variables. Figure 3.4.3 represents the mixed model as it is formative in the case of exogenous latent variables and reflective in the case of endogenous latent variables.

Figure 3.4.3 – **Mixed Model**



Source: Vilares and Coelho (2005)

3.5 – Model estimation

In the estimation of the parameters, it is assumed that the distribution of the observed variables can be described through a vector of means and their covariance matrix. There are no restrictions for the mean vector and, therefore, the estimation of the parameters can be performed by adjusting the covariance matrix imposed by the model (Σ) to the sample covariance matrix (S)

When the distribution of the data is Multivariate Normal, Maximum Likelihood estimators can be used to estimate the parameters. The Generalized Least Squares and Unweighted Least Squares methods do not assume the normality of the data.

According to Bollen (1989), the estimation defined according to the likelihood is performed by minimizing the function F according to Equation 3.7.

$$FML = \log|\Sigma| + \text{tr}(S\Sigma^{-1}) - \log|S| - (p+q) \quad (3.7)$$

Where:

Σ is the covariance matrix of the model and S is the sample covariance matrix

$|A|$ represents the determinant of a matrix A

$\text{tr}(A)$ is the trace of the matrix A .

The method of Generalized Least Squares is defined according to Equation 3.8 where the weight of W^{-1} is the matrix of weights for the residual matrix. The Unweighted Least Squares method is a special case of this method, where $W^{-1}=I$.

$$FGLS = 1/2 \text{tr}\{[S-\Sigma(\theta)]W^{-1}\}^2 \quad (3.8)$$

There are two methods for estimating structural equation models. The models based on covariance structures CSM (Covariance Structural Model), which describe the variances and covariances of the observed variables, and the models based on Partial Least Squares such as PLS (Partial Least Square).

The most common commercial software used in the estimation of the parameters of the covariance models are LISREL, AMOS, LISCOMP, SEPATH, among others. The main method used is that of maximum likelihood.

The most common software in estimating PLS-based models are LVPLS, VisualPLS, PLS-Graph, etc.

3.6 – Model Validation

To measure the validity or adequacy of the model, it is sought to evaluate whether the coefficients and magnitudes of the estimated effects are in accordance with the previously established hypotheses. There are several measures with the objective of evaluating the fit of the model that depend on the estimation methodology adopted. In this section we will present a summary of the most frequently adopted.

For models based on covariance structures (CSM), the following three measures proposed by Ridgon, 1998 in Vilares and Coelho, 2005 are frequently used; The Chi-Square test (χ^2); The square root of the Mean Squared Error; and The Comparative Adjustment Index, CFI.

The most commonly used measure is based on the Chi-square statistic (χ^2). This measure tests whether the population covariance matrix is equal to the covariance matrix estimated by the model. The test statistic is, by definition, equal to:

$$\chi^2 = (n-1)fML \quad (3.9)$$

where n is the sample size and fML is the minimum value of the maximum likelihood discrepancy function.

The Square Root of the Mean Square Error of Approximation is defined as:

$$RMSEA = \sqrt{\frac{\chi^2 - d}{(n-1)d}} \quad (3.10)$$

where d is the number of degrees of freedom and n is the size of the sample. The authors Vilares and Coelho (2005) consider that a value for this statistic lower than 0.05 is an indicator of good adequacy of the model.

The Comparative Adjustment Index (CFI), as well as the NFI (Normed Fited Index) compares the fit of the model under analysis with the null model (model in which all covariances are zero).

Table 3.1 presents a summary of the most generalized statistics and their respective reference levels.

Table 3.1 – Measures of the quality of adjustment (Adapted Maroco, 2006)

Statistics	Reference Level
χ^2/df	≈ 1 – Good adjustment ≤ 2 – Acceptable adjustment ≤ 5 – Difficult adjustment ≥ 5 – Bad fit
GFI (godness-of-fit) $GFI = 1 - \frac{1}{2} tr(S - \Sigma)^2$	$= 1$ – Perfect fit 0.9 to 0.95 – Good fit <0.9 – Misfit 0 – Non-adjustment
AGFI (adjusted-godness-of-fit) $AGFI = 1 - \left(\frac{k}{df}\right)(1 - GFI)$ Where k is the number of unique values of S	$= 1$ – Perfect fit 0.9 to 0.95 – Good fit <0.9 – Misfit 0 – Non-adjustment
RMSEA (root mean-square error of approximation) $RMSEA = \sqrt{\frac{\chi^2 - d}{(n-1)d}}$	≤ 0.5 – Good adjustment
NFI (normed fit index) $NFI = \frac{\chi^2_{null} - \chi^2_{mod}}{\chi^2_{null}}$	$= 1$ – Perfect fit ≈ 0.9 – Good adjustment <0.9 – Misfit
CFI (comparative fit index) $CFI = 1 - \frac{\chi^2_{mod} - df_{mod}}{\chi^2_{null} - df_{null}}$	$= 1$ – Perfect fit ≈ 0.9 – Good adjustment <0.9 – Misfit

For PLS-based models, the measures aimed at analyzing the quality of the adjustment are the Coefficient of Determination (R^2) and the Explained Mean Variance (AVE). To test the stability of the parameter estimation, the Jackknifing and Bootstrap techniques are used.

If the adjusted model has good adjustment rates, the model is accepted, otherwise you will have to refine the model. *Software* that adjusts structural equations provides suggestions on changes to be made. The Indices of Modification (MI), for the parameters, are estimates of the reduction of the chi-square statistic of the model, if the fixed parameter is released with the loss of a degree of freedom. The authors of the AMOS software recommend that an MI equal to or greater than four

should already be considered, however it should only be done if there is strong evidence that allows it to be done, otherwise changes in parameters whose indices are higher (for example $MI > 10$) should be considered.

CHAPTER 4

TOURIST SATISFACTION AND LOYALTY INDEX

This chapter aims to present the methodology and procedures adopted for the development of the tourist satisfaction and loyalty index (ISLT). Topics such as the exploratory research methodology, the elaboration of the theoretical model, the methodology of the index, the measurement instrument and the scales of the observed variables, validity and reliability of the measurement instrument, treatment of non-responses, sample sizing and data collection, as well as the model estimation methodology, will be clarified.

4.1 – Exploratory Research

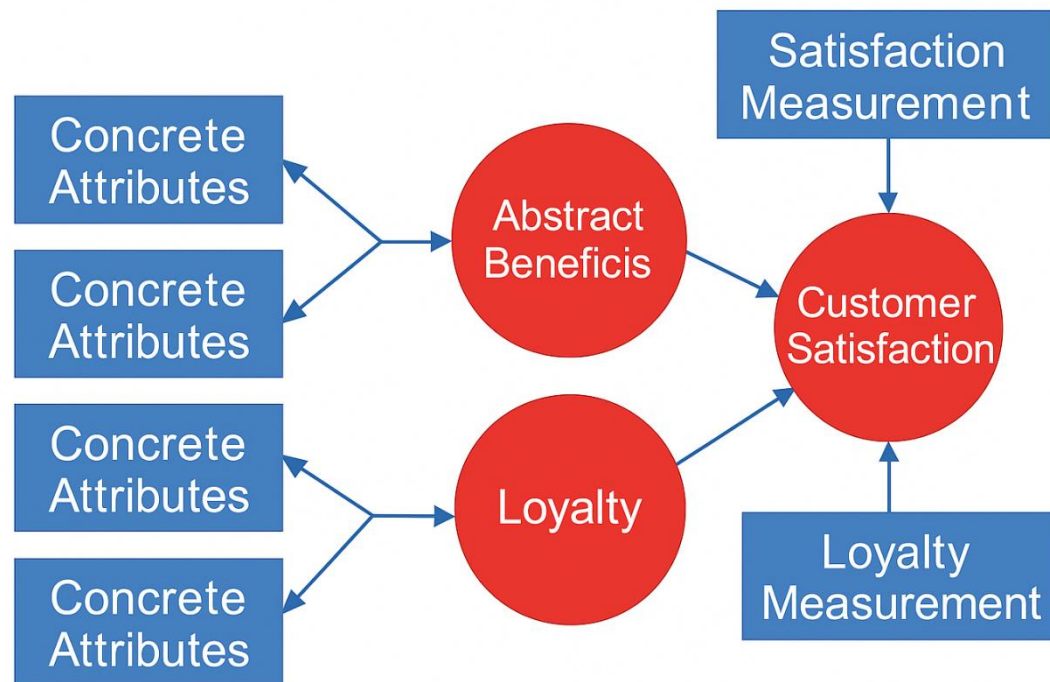
Exploratory research aims to provide the researcher with greater familiarity with the problem under study. This research aims to make a complex problem more explicit or even to identify the most appropriate hypotheses of the problem. According to Malhotra (2001), the main objective is to enable the understanding of the problem faced by the researcher. Exploratory research is used in cases where it is necessary

to define the problem more precisely and identify actions or obtain additional data before an approach can be developed.

Generally, research projects are designed based on the researcher's own views and perspectives. The result is a survey or a measurement instrument that expresses the researcher's view of the problem and not the client's view. Towards Johnson and Gustafsson (2000), the client tends to form opinions about attributes such as quality of services, prices, security in relation to functional areas of the organizations and, therefore, it is essential that a research project or a measurement instrument be based on these opinions.

Second Johnson and Gustafsson (2000), the concrete attributes of the product or service and the abstract benefits occupy different levels in the customer's view. Figure 4.1.1 illustrates how this works. Rectangular objects represent the concrete aspects or dimensions in which customers can evaluate the performances through market research. Circular objects represent relatively abstract attributes or latent variables that capture the benefits or consequences that the attributes produce.

Figure 4.1.1 – **The Basic Model**



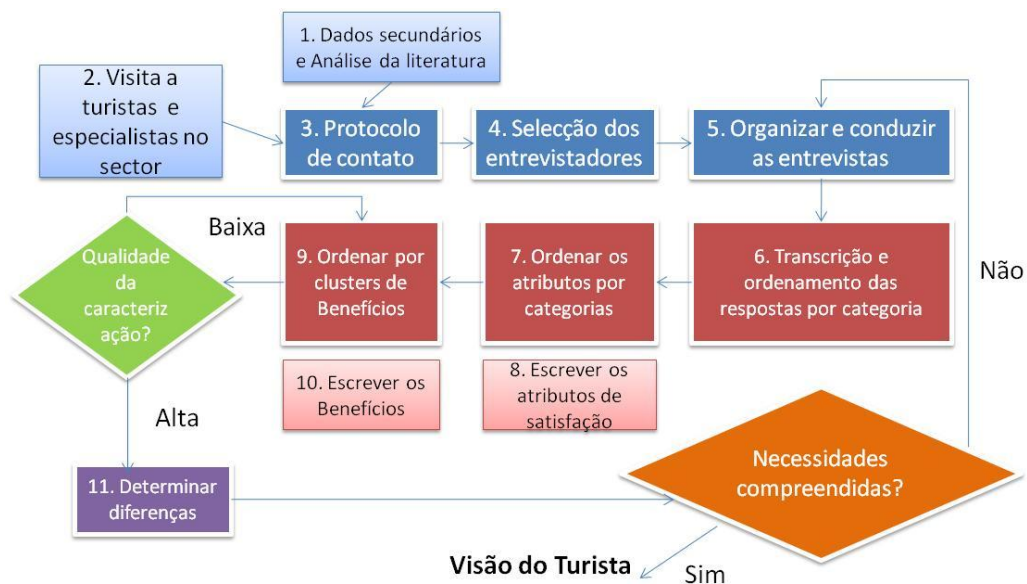
Source: Johnson and Gustafsson (2000)

In this research, the main objective of conducting a qualitative research is to identify and understand the issues (benefits and attributes) that potentially influence tourist satisfaction and loyalty.

In the marketing literature there is a wide range of qualitative methods of analysis that can be used to identify attributes of products and services and the benefits they provide to customers - in-depth interviews, focus groups and a variety of observation techniques. For this study, we focused on a qualitative analysis technique, which according to Johnson and Gustafsson (2000), is particularly successful for developing models of satisfaction and loyalty: *the critical incident technique* or critical incident technique (CIT).

CIT typically involves an interviewer in which an individual or groups of individuals are asked to produce a list of things they like or dislike about the product, service, or company in question. Thus, the CIT process involves a number of steps that are illustrated in Figure 4.1.1.

Figure 4.1.2 – **Processes for developing the CIT technique**



Source: Adapted from Johnson and Gustafsson (2000)

The first step in the process is to collect all the information from similar studies on tourist satisfaction that we get from literature review and tourist satisfaction studies, as well as from marketing books for tourist destinations. The second stage of the process is to interview tourists and industry experts to understand how they would like to be approached and how they will react to the methods that will be used. Essentially, this last step provides an opportunity to pre-test the CIT technique.

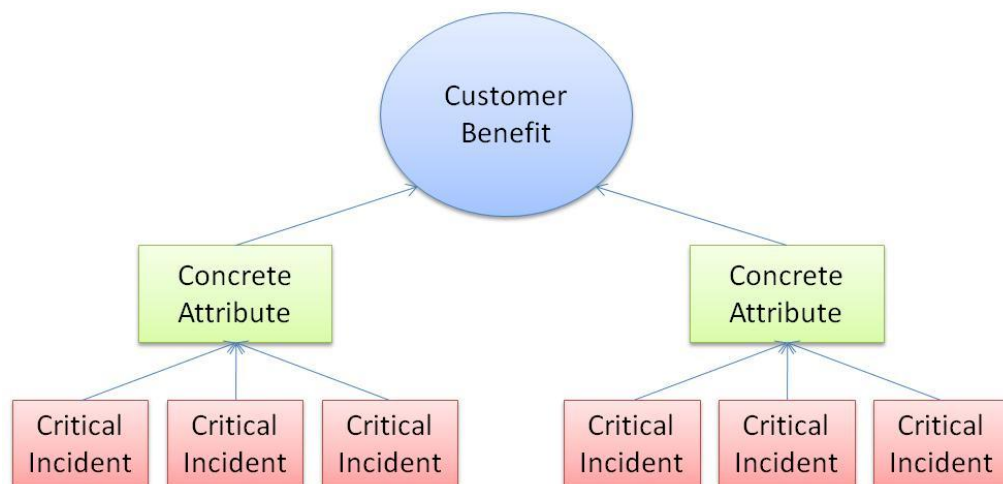
The first and second stages generate the information we need to develop the interview protocol. This protocol is the plan for conducting the interview and the instructions that will be given to the interviewees. This includes directions on how to initiate, conduct, and end the approach.

The fourth stage consists of selecting and training the interviewers to conduct the interviews. For this study, the interviews were conducted by the author.

The fifth stage is the formalization process by scheduling the places and times to conduct interviews with a sample of tourists. Johnson and Gustafsson (2000) recommend that between 5 and 10 interviews be carried out and this number increases depending on the rest of the analysis.

In the sixth step, the comments are transcribed and organized to separate critical incidents into positive and negative incidents. The next four steps are to include and encode the critical incident data into attributes and benefits by independent criteria one by one as per Figure 4.1.3.

Figure 4.1.3 – **Encoding critical incidents into Attributes and Benefits**



Source: Johnson and Gustafsson (2000)

Step eleven will use this result to assess whether the differences between the attributes and benefits are significant. If the attributes and benefits are understandable, then we identify the aspects that influence tourist satisfaction and loyalty.

In this study a sample of 6 people was used, 4 tourists of different nationalities and 2 specialists in the tourism sector in Brazil. The steps of the CIT technique were followed according to the recommendations of Johnson and Gustafsson (2000) and later Table 4.1 was elaborated to summarize the benefits and attributes identified with the CIT analysis.

This research was also enriched with the opinions of users of the <http://www.tripadvisor.com> website, which is a valuable collection of reviews made by those who have already used the services of a tourist destination.

Table 4.1 - CIT Analysis

CIT Analysis	
Attributes and Categories of Benefits for Tourists	
Benefit Category	Satisfaction Attributes
Nature/ Landscape/Population	Beaches Climate Different places Natural landscape Local people
Culture/ Historical Heritage	Museums Historic Sites and Buildings Amusement parks Theater, music, or other artistic activities Practice and sports facilities Fairs, festivals and other special events
Hosting	Hotel Room Cleaning Hotel location Available Services Quality of care Healthcare establishments
Restaurants/ Bars	Food quality Variety of food Atmosphere of the restaurants/bars Value for money
Transport	Air transport Car Rentals Intercity rail services Regular and long-distance buses Cruise ships
Prices	Hosting Pricing Transport prices Food prices Prices compared to other destination alternatives
Safety	Site lighting Policing in sight Sense of security
Other services	Tour operators Guides and tour services

4.2 – The ISLT model

From the CIT analysis, the details of the tourist's vision were identified for the design of the theoretical model of Tourist Satisfaction and Loyalty. As described in Figure 4.1.3, attributes determine customer benefits, and benefits influence satisfaction. To complete the tourist's view, we have to add the consequences of satisfaction.

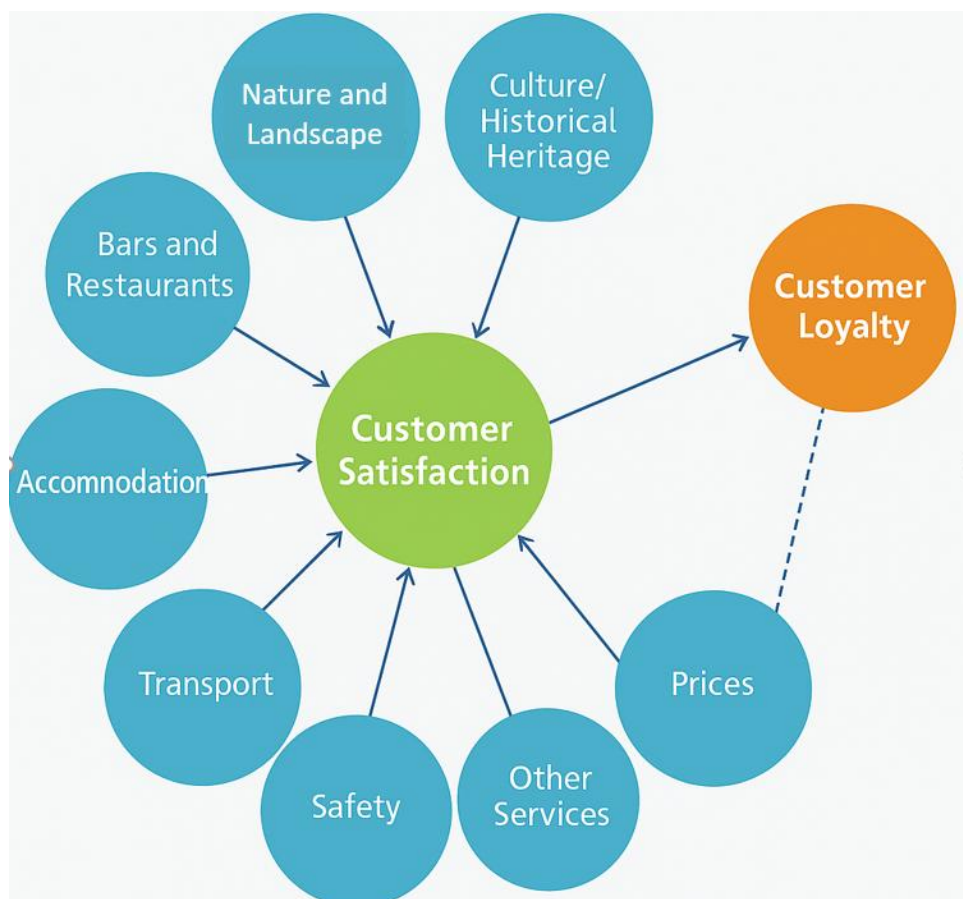
Towards Johnson and Gustafsson (2000) Loyalty is the most important and natural consequence of satisfaction. In the tourism sector, the importance of this consequent satisfaction is even more evident. Quality in this sector is the way to provide tourist satisfaction, which will have an impact, in turn, on word-of-mouth marketing about that place, product or service. This invisible network of communication propagates the tourist's experience. In Brazil, as in the rest of the world, the flow of tourists who visit places on the recommendation of other people is significant.

The authors Johnson and Gustafsson (2000) recommend that the image should be seen as a consequence of satisfaction. The effect of satisfaction on loyalty is the degree to which recent customers buy and consume experiences that affect their loyalty. The effect of image satisfaction reflects the degree to which more recent customers buy and consume experiences about the products or services that generate a better reputation, as well as the consistency of that experience over time. Image also has a direct effect on loyalty, so that factors such as brand inclusion influence when choosing a destination just by viewing the brand.

Finally, it was possible to identify through qualitative research that the price in this sector can have a direct effect on loyalty. Some of the interviewees emphasized that they were very satisfied with the trip to Brazil, but do not intend to return, as the costs of the trip from Europe are high.

Figure 4.2 represents the theoretical model of the Tourist Satisfaction Index. The variables: Culture/Historical Heritage; Nature and Landscape; Bars and Restaurants; Accommodation; Transport; Safety; Other Services and Prices, drivers of product quality and services are antecedents of Customer Satisfaction in the Tourism sector. Loyalty is the consequence of tourist satisfaction.

Figure 4.2 – **ISLT Theoretical Model – Tourist Satisfaction and Loyalty Index**



Source: Own

4.3 – The ISLT methodology

From the point of view of Bernstein's philosophy of science, *Standards* may not be applied to all knowledge. What matters is not unanimity, but discussion. In this conception, the Tourist Satisfaction and Loyalty Index presents itself as a rich instrument for discussion and deepening of the knowledge of the tourism phenomenon.

From the point of view of classical economics, the term "theory" is associated with principles, based on empirical evidence, which promote their realization, consistency and verification of predictions of the functioning of some systems or phenomena. In this context, a theory is not a simple model or set of hypotheses, but rather a formal articulation between cause and effect, which is verified repeatedly and which reveals how the system or phenomenon works.

The objective of the Tourist Satisfaction and Loyalty Index is to propose a discussion on how quality factors relate to customer satisfaction and loyalty as well as to measure the impact of these factors on the tourism sector. There are several reasons for interest and contributions in the discussion about an index to measure tourist satisfaction and loyalty:

- Measure the impact of tourism product promotion efforts, if they are reaching the target market. Understand the target market and define the product to offer, and whether it meets the needs of the target market.
- Encourage new investment by knowing how current products are meeting the needs, expectations and desires of current tourists and their tendency to recommend the product.

- The measure could become a barometer for strategic planning.
- Monitoring tourist satisfaction at a more global level would be a valuable tool for comparing the efforts of the individual enterprise in this industry.
- Governments are now recognized and valued for the results of their programs. Using a scale for tourism satisfaction, it could evaluate the success of its policies to increase the quality of services provided to visitors in its regions.
- As an appropriate measuring instrument, it would be possible for individual sectors to be compared with other sectors. In an industry where the success of the whole results from the contribution of each part, this information will help identify which sectors need improvement.

This discussion has many functions in the tourism sector, especially helping to identify and assess important problems, which can contribute to public and private sector organizations in formulating policies and setting priorities appropriate to market changes and community interests.

The ISLT evaluation methodology can cover the various segments of the tourism sector which are hospitality, transport, food, culture and entertainment, travel agencies, etc. In this investigation, a quantitative research was developed, as a simulation, with 178 tourists in the city of Salvador in order to measure the index for the tourist destination Salvador.

The evaluation questionnaire contains 41 objective questions and 4 demographic questions, totaling 40 measurement variables, whose variables are used in the estimation of the model parameters.

4.3.1 – Questionnaire Design

According to Vilares and Coelho (2005), the construction of a questionnaire is a specialized task that involves different levels of complexity. For the construction of the questionnaire used in the research project of this dissertation, the following 10 steps proposed by Toquer and Zins (1999) were respected:

- 1- Collect only the information that allows the objectives to be achieved.
- 2- Determine the type of questionnaire to use.
- 3- Determine the contents of the questions.
- 4- Determine the type of questions.
- 5- Choose short questions, simple words and respect grammar rules.
- 6- Decide order of questions.
- 7- Determine visual aspects and pagination of the questionnaire.
- 8- Pre-test of the questionnaire.
- 9- Review and develop the final questionnaire.
- 10- Formulate instructions to auditors.

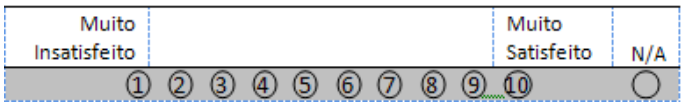
The first stage emphasizes the importance of collecting only the information that will really be relevant to achieve the objectives proposed in this research. Often in Customer Satisfaction surveys, many questions are elaborated that contribute to very long and sometimes incomplete questionnaires.

There are different categories of questionnaires: direct and indirect, structured or unstructured. In this case, the interviewee answers directly to the interviewer a list of very specific questions.

This research used, as a collection instrument, a structured form (Appendix I), prepared in three languages: Portuguese, English and Spanish. The content of the questions was defined based on the exploratory research carried out in the

Norwegian model (Johnson et al, 2000), Maroco (2006), in texts that present examples of satisfaction surveys in Vavra (1997), Johnson and Gustafsson (2000), Toquer and Zins (1999), Vilares and Coelho (2005) and also in similar studies for the tourism sector. The questions were closed, measured on a differential scale with discrete characteristics. The scale used to measure the quality attributes was the Likert scale presented in Figure 4.3.1.

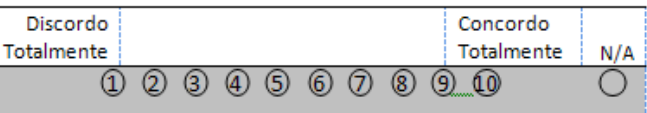
Figure 4.3.1 – **Scale for measuring quality attributes**



According to Johnson and Gustafsson (2000), the frequency distributions of Satisfaction evaluations are always asymmetric in competitive markets. Therefore, to reduce the statistical problem of extreme asymmetries, the ISLT was designed to be evaluated through a 10-point scale, allowing tourists to better discriminate their evaluations.

Global Satisfaction was measured by the scale of Quality attributes. The indicators for evaluating Global Satisfaction used the scale presented in Figure 4.3.2.

Figure 4.3.2 – **Scale for measuring satisfaction assessment indicators**



To evaluate the image and loyalty of the tourist, the scales presented in Figure 4.3.3 and Figure 4.3.4, respectively, were used.

Figure 4.3.3 – **Scale for measuring the image of the tourist**

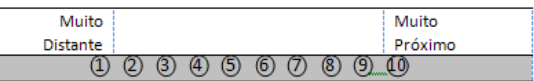


Figure 4.3.4 – **Scale of Measurement of Tourist Loyalty**

Pouco Provável											Muito Provável	N/A
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩			

The questionnaire was ordered into three main blocks: Global Satisfaction, Quality Attributes and Satisfaction Evaluation, Image and Loyalty, in order to avoid confusion and facilitate the interviewee's reflection. Global Satisfaction was positioned before the evaluation of quality attributes due to three factors presented by Vilares and Coelho (2005): allowing a less biased (and more spontaneous) measure of true satisfaction; the evaluation is made based solely on the client's criteria; ease of satisfaction modeling afterwards.

The visual aspects were designed to present the interviewee with more confidence and confidence in the study carried out using the symbol of the University. Factors such as clarity and careful visuals were also taken into account.

The questionnaire was pre-tested in a pilot survey, applied to 15 foreign tourists who were experiencing their stay in hotels in Salvador. Then necessary measures were taken in order to make some questions clearer and also incorporated issues such as Food Prices that were suggested by the respondents.

The final questionnaire was composed of three major sections, which are: Overall Satisfaction, Quality Attributes and Image and Loyalty Evaluation. The attributes of Quality are subdivided into Nature/Landscape/Local People, Culture/Historical Heritage, Accommodation, Restoration, Transportation, Security, Prices and Other Services

During the data collection process, it was identified that the scale for the Image, Figure 4.3.3, gave rise to ambiguous interpretations. The interviewees who were very satisfied with the city assessed that their expectations were very far from what they experienced because their expectations had been exceeded. While the

same happened for the very dissatisfied respondents. Therefore, it was decided to use only the Image in the descriptive analyses and not in the model, since it could cause a bias in the results.

4.3.2 – Data collection

In order to calibrate the theoretical model of the Tourist Satisfaction and Loyalty Index, a descriptive research was designed, of applied nature and with a quantitative approach.

According to the objectives of the research, the population was defined with the characteristics of international tourists who spent their vacations in the city of Salvador, Bahia, Brazil, who used air transport and who boarded at the Deputado Luis Eduardo Magalhães International Airport.

The population defined for the study was dimensioned based on the basic indicators of tourism in the city of Salvador, prepared by SETUR in conjunction with EMBRATUR. The figures show that in 2005 the global flow of foreign tourists staying in the city of Salvador, who landed at the Deputado Luis Eduardo Magalhães International Airport was 478,240 (four hundred and seventy-eight thousand, two hundred and forty people). This number is a more reliable approximation of the flow of foreign tourists staying in the city of Salvador in the year 2008.

The empirical method of quota sampling was used because it was not possible to obtain a comprehensive survey base for this population. The population was divided into subpopulations using the criterion the continent of the country of origin to determine presence in the sample. The sample was subdivided into 80% Europeans,

8% from North America, 5% from South America, 3% from Africa, 2% from Asia and 2% Oceania in order to represent the population, according to SETUR data.

Data collection was carried out in July 2008 at the Luis Eduardo Magalhães International Airport with authorization from INFRAERO (ANNEX II) for access to the entire area of the airport. The choice of the month of the research is due to limitations regarding the author's availability to go to Brazil to conduct interviews with tourists. The flights selected for the research, as well as the search times, were randomly selected by the author from the list of flights made available by INFRAERO (ANNEX III).

The interviews were conducted by the author accompanied by 4 university students from the state of Bahia. For the training of the research team, the following activities were carried out: Presentation of the Questionnaire, Application of the Questionnaire to the researchers, Explanation of the research population and respective quotas, Application Supervised by the author. The selection of the elements of each category of the sample was made based on a strict control by the interviewers, namely on the time and flights selected for interview, in order to reduce the bias introduced by the interviewers.

4.3.3 – Sample size

The sample size for the simulation was calculated to estimate the mean value of the Tourist Satisfaction variable using Equation 4.1 (Vilares and Coelho, 2005).

$$n = \frac{z^2 \frac{\sigma^2}{1 - \frac{\alpha}{2} d^2}}{1 + z^2 \frac{\sigma^2}{1 - \frac{\alpha}{2} N d^2}} \quad \text{Equation (4.1)}$$

Where:

n is the sample size;

$z_{1-\frac{\alpha}{2}}$ represents the quantile of the standardized normal distribution corresponding to the chosen confidence level;

σ^2 represents the population variance of the tourist satisfaction variable;

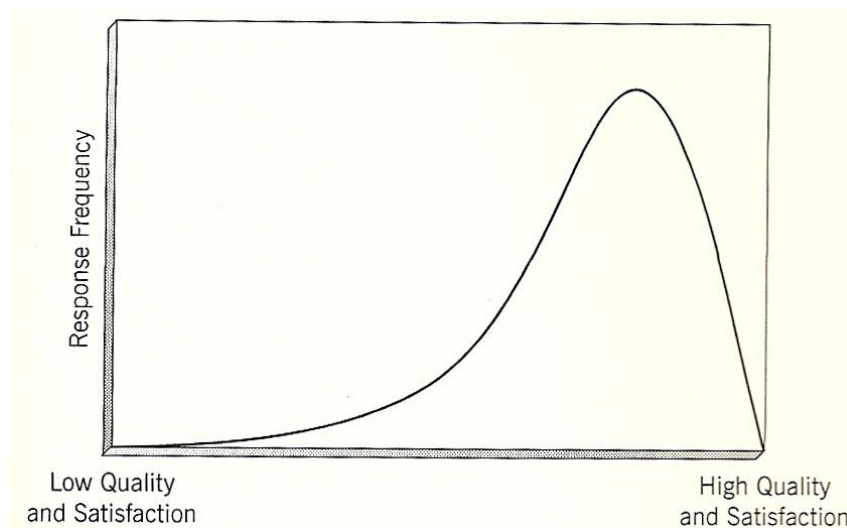
N is the population size and;

d is absolute precision (difference between the estimate and the true mean at the confidence level considered).

For this study, we used the confidence level of $(1-\alpha)=95\%$ and, therefore, $=1.96$ and $N=478.240 \cdot z_{1-\frac{\alpha}{2}}^2$

According to Johnson and Gustafsson (2000), in customer satisfaction and loyalty surveys, the typical expected form of data distribution maintains an above-average concentration trend. The distribution of customer satisfaction is presented by Johnson and Gustafsson (2000) as shown in Figure 4.3.5

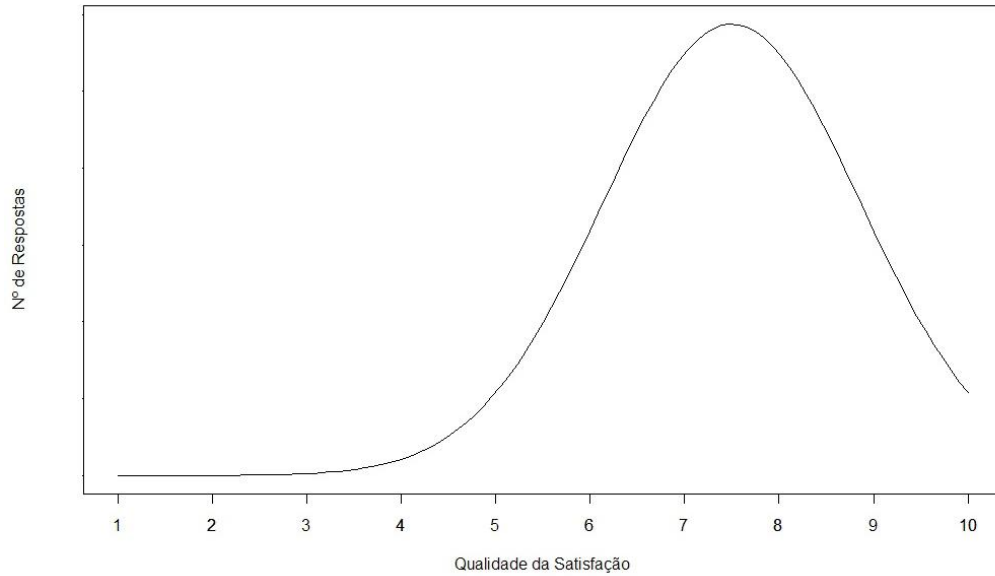
Figure 4.3.5 – **Expected distribution for Customer Satisfaction in Marketing studies**



Source: Johnson and Gustafsson (2000)

To calculate the population variance, which is an unknown parameter, a simulation of a data distribution was performed that was close to that described by Johnson and Gustafsson (2000). This approximation was made using the R software, and we obtained a distribution with a mean of 7.5 and variance of 1.84. Figure 4.10 represents the approximate curve on a scale of 1 to 10.

Figure 4.3.6 – **Approximate distribution to that proposed by Johnson and Gustafsson (2000)**



Therefore, considering the variance equal to 1.84 and the absolute precision $d=0.2$, the calculated sample size of 178 tourists was obtained, as shown in Equation 4.2.

$$n = \frac{1.96^2 \times \frac{1,358^2}{0,2^2}}{1 + 1,96^2 \times \frac{1,358^2}{478.240 \times (0,2^2)}} \cong 178 \quad \text{Equation (4.2)}$$

4.4 – Model estimation

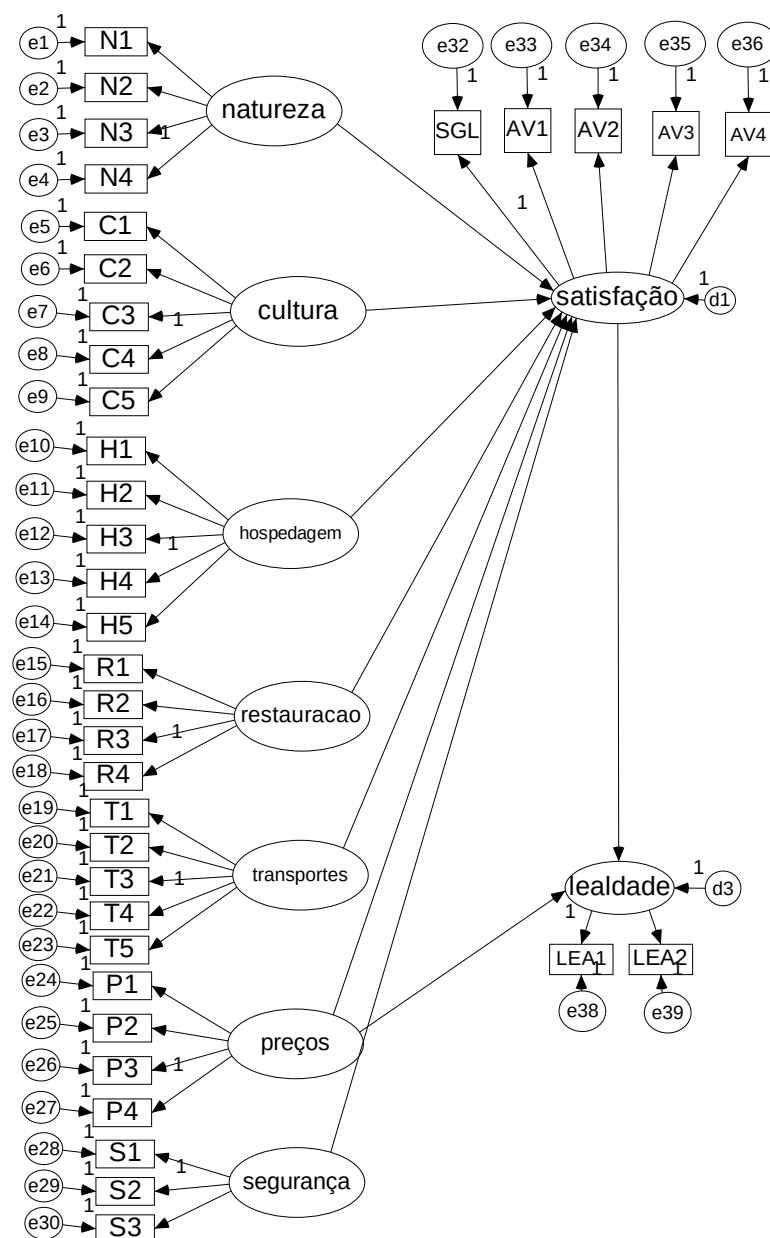
Table 4.1 presents the coding of the measurement variables defined from the definition of the theoretical model, Figure 4.2, and the design of the questionnaire.

Table 4.2 – Questionnaire Coding

Questões/ Afirmações	Código
Como classifica a sua satisfação global com sua visita a cidade de Salvador?	SGL
Natureza/ Paisagem / População local	
As paisagens naturais	N1
Qualidade das praias	N2
O clima do local	N3
As pessoas locais	N4
Cultura / Patrimônio Histórico	
Museus da cidade	C1
Sítios e prédios históricos	C2
Parques de diversões	C3
Teatro, música e outras atividades artísticas	C4
Instalações para práticas de esportes	C5
Feiras, festivais e outros eventos especiais	C6
Hospedagem	
Infra-estrutura do hotel	H1
Qualidade do atendimento	H2
Bar / Restaurante do hotel	H3
Serviços disponíveis	H4
Localização do hotel	H5
Restauração/ Bares	
Qualidade das comidas	R1
Variedade de pratos	R2
Atmosfera dos estabelecimentos	R3
Relação qualidade/preço	R4
Transportes	
Transporte aéreo	T1
Serviços de aluguel de automóveis	T2
Serviços ferroviários interurbanos	T3
Auto-carros regulares e de longa distância	T4
Navios e barcos	T5
Preços	
Preço total da viagem	P1
Preços de hospedagem	P2
Preços dos transportes	P3
Preços da alimentação	P4
Segurança	
Iluminação dos locais	S1
Policimento/ segurança visível	S2
Sensação de segurança na cidade	S3
Outros Serviços	
Guias e serviços de passeio	O1
Avaliação da Satisfação	
Estou satisfeito com a minha decisão na escolha em vir para Salvador	AV1
Procedi corretamente ao escolher viajar para Salvador	AV2
Considero que foi a melhor escolha face outros destinos avaliados	AV3
A minha estadia foi muito agradável	AV4
Imagem e Expectativa	
É a primeira vez que visita Salvador?	FTI
Como classificaria a comparação entre a cidade de Salvador e as suas expectativas?	EXP
Lealdade	
No futuro, voltará a escolher a cidade de Salvador?	LEA1
Recomendaria Salvador a familiares e amigos?	LEA2

Figure 4.4.1 represents the ISLT model, where the circles are the latent variables and the rectangles are their respective indicators. The lines that join the latent variables define the relationship between them and the meaning of cause and effect. The lines that join the latent variables to the measurement variables define the indicators by which the latent variables manifest themselves, being in this model the Reflective type.

Figure 4.4.1 – Tourist Satisfaction and Loyalty Index Model



Source: Own

According to the figure, the ISLT model establishes the following relationships:

Satisfaction = Function (Quality Attributes = Nature and/or Urban Beauty, Culture and/or Historical Heritage, Lodging, Catering, Transportation, Prices, Safety);

Loyalty = Function (Satisfaction).

For the elaboration of the model, it was decided not to use the variable Other Services due to the high rate of non-response in this group of questions.

In this model, the latent quality variables are exogenous variables and the others are endogenous. However, each variable, Satisfaction and Loyalty, are also the cause of the consequent endogenous variables. Each indicator evaluates a particular type of service provided in the tourism sector using a 10-point Likert scale.

The quality constructs are evaluated through 31 questions that are grouped into eight indicators obtained according to the CSM or PLS estimation method. Satisfaction is evaluated through 5 indicators and loyalty through 2.

The structural parameters, loads and respective covariance matrices of the latent variables, random errors, measurement errors, will be estimated from the data obtained from the quantitative research.

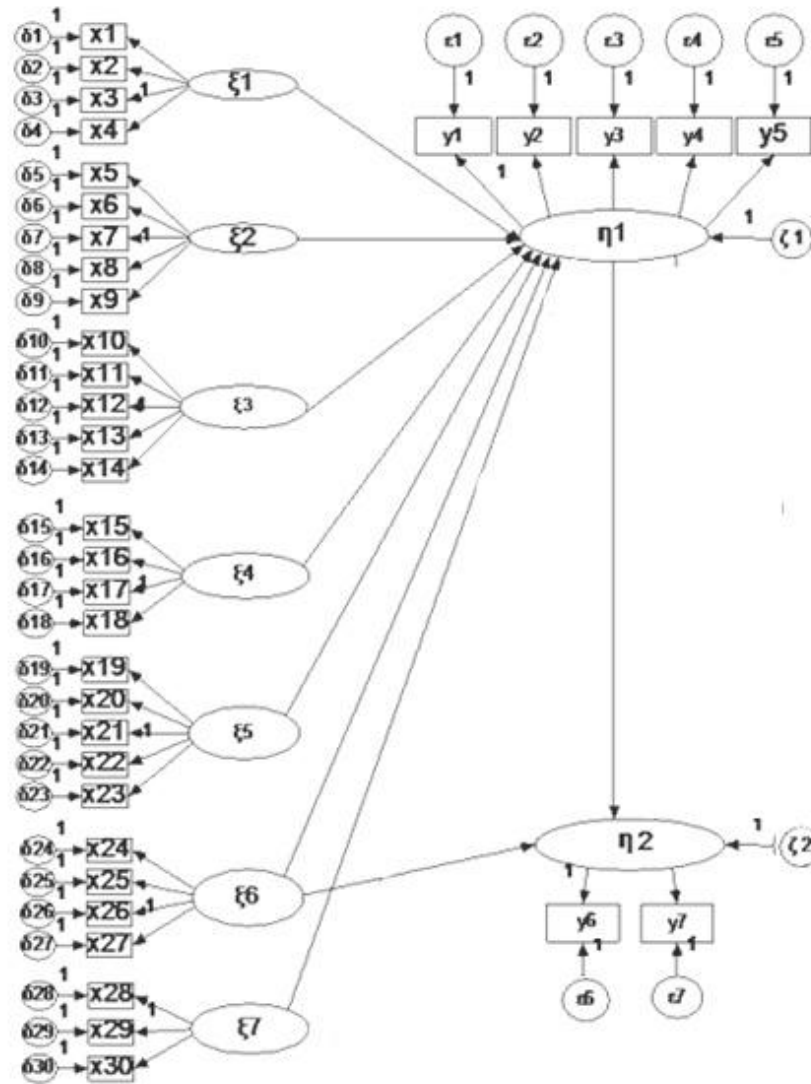
A model of Structural Equations, as in Figure 4.4.2, is described through Equation 3.2, where the first equation represents the structural part of the model, and the other two, the part of the measurements.

$$\eta = \alpha + \beta\eta + \Gamma\xi + \zeta$$

$$y = \mu y + \lambda y \eta + \varepsilon$$

$$x = \mu x + \lambda x \eta + \delta$$

Figure 4.4.2 – ISLT Model Structure



Source: Own

Explicitly representing Equation 3.2 for the model in Figure 4.4.2 we have the following equations:

$$\begin{bmatrix} \eta_1 \\ \eta_2 \end{bmatrix} = \begin{bmatrix} 0 & 0 \\ \beta_{21} & 0 \end{bmatrix} \begin{bmatrix} \eta_1 \\ \eta_2 \end{bmatrix} + \begin{bmatrix} \Gamma_{11} & 0 \\ \Gamma_{12} & 0 \\ \Gamma_{13} & 0 \\ \Gamma_{14} & 0 \\ \Gamma_{15} & 0 \\ \Gamma_{16} & \Gamma_{36} \\ \Gamma_{17} & 0 \end{bmatrix}^{-1} \begin{bmatrix} \xi_1 \\ \xi_2 \\ \xi_3 \\ \xi_4 \\ \xi_5 \\ \xi_6 \\ \xi_7 \end{bmatrix} + \begin{bmatrix} \zeta_1 \\ \zeta_2 \end{bmatrix} \quad \text{Equation 4.3.1}$$

$$\begin{bmatrix} y_1 \\ y_2 \\ y_3 \\ y_4 \\ y_5 \\ y_6 \\ y_7 \end{bmatrix} = \begin{bmatrix} \lambda_{y1} & 0 \\ \lambda_{y2} & 0 \\ \lambda_{y3} & 0 \\ \lambda_{y4} & 0 \\ \lambda_{y5} & 0 \\ 0 & \lambda_{y6} \\ 0 & \lambda_{y7} \end{bmatrix} \begin{bmatrix} \eta_1 \\ \eta_2 \end{bmatrix} + \begin{bmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \varepsilon_3 \\ \varepsilon_4 \\ \varepsilon_5 \\ \varepsilon_6 \\ \varepsilon_7 \end{bmatrix} \quad \text{Equation 4.3.2}$$

For each exogenous variable ξ , we have the homologous equation presented for the exogenous variable ξ_1 Nature.

$$\begin{bmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \end{bmatrix} = \begin{bmatrix} \lambda_{x1} \\ \lambda_{x2} \\ \lambda_{x3} \\ \lambda_{x4} \end{bmatrix} \xi_1 + \begin{bmatrix} \delta_1 \\ \delta_2 \\ \delta_3 \\ \delta_4 \end{bmatrix} \quad \text{Equation 4.3.3}$$

Thus, the general form of the individual measure of Tourist Satisfaction, represented by Equation 4.3.4, can be estimated in a similar way to the ACSI.

$$IST = \frac{E(\eta_1) - \text{Min}(\eta_1)}{\text{Max}(\eta_1) - \text{Min}(\eta_1)} \times 100 \quad \text{Equation 4.3.4}$$

Where η_1 is the latent variable Tourist Satisfaction and $E(\cdot)$, $\text{Min}(\cdot)$ and $\text{Max}(\cdot)$ represent, respectively, the expected value and the minimum and maximum values of this variable. These indicators range from 0, 100 points.

The minimum and maximum values are determined by equations 4.3.6 and 4.3.7.

$$\text{Min}(\eta_j) = \text{Equation 4.3.6} \sum_{i=1}^n p_{ji} \text{Min}(y_{ji})$$

$$\text{Max}(\eta_j) = \text{Equation 4.3.7} \sum_{i=1}^n p_{ji} \text{Max}(y_{ji})$$

Where: y_{ji} are the indicators of Satisfaction, p_{ji} are the estimated scores for each of the indicators and n is the number of indicators or Tourist Satisfaction.

Pictorially, it is possible to present, as shown in Figure 4.4.3, a way of classifying the indicators of Tourist Satisfaction and Loyalty by dividing the scale amplitude by 5. In this way, a common measure in this sector can be used and easy for tourists to understand.

Figure 4.4.3 – Symbols for the ISLT

Value of Indicators	ISLT (Sun Symbol)
Less than 21	
From 21 to 40	
From 41 to 60	
From 61 to 80	
Highest 80	

Source: Own

CHAPTER 5

RESULTS AND DISCUSSION ABOUT THE TOURIST SATISFACTION AND LOYALTY INDEX

In this chapter, the results obtained through the quantitative research carried out to estimate the scores of the Tourist Satisfaction and Loyalty Index will be evaluated. The results of the research will be grouped and analyzed in an exploratory and descriptive way through tables, figures and measures that facilitate the understanding of the information, then the structural analysis methods based on the CSM will be evaluated and compared to estimate the scores of the Tourist Satisfaction model. The consequences of Satisfaction and its impact on Tourist Loyalty will also be analyzed. The analyses presented in this chapter were made using the SPSS v16 and AMOS v16 software.

This chapter is organized as follows. Section 5.1 provides a critical analysis of the measuring instrument. Section 5.2 presents the socio-demographic characterization of the sample. Section 5.3 shows the descriptive and exploratory analysis of the tourist sample data.

5.1 – Critical analysis of the measurement instrument

The survey questionnaire was presented in three languages, Portuguese, English and Spanish (ANNEX I), thus offering more alternatives to tourists. The inclusion of the Germanic language would have facilitated interviews with German tourists because stopovers in this country are often evaluated in reverse order where 1 is Very Satisfied and 10 represents Being Very Dissatisfied. The other tourists had no difficulty in answering the questions.

Data were collected from 178 tourists, obtaining 100% of the sample amount required in the initial calculation. After coding the questions (Table 4.2), a database containing 178 records was created and will be studied in this chapter.

The answer option N/A (not applicable) was placed in all questions of evaluation of quality attributes so as not to force answers from the interviewees, except in the case of the global evaluation of satisfaction.

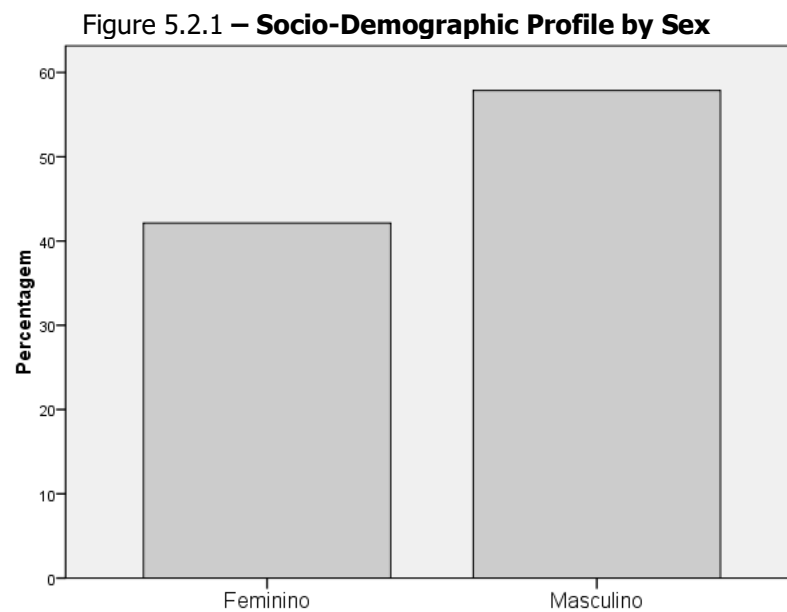
The non-response rate (blank or N/A answer) is, for certain questions, very high, reaching values above 40% (Table 5.1.1). These high non-response rates may be an indicator that tourists have not used this type of service or that they do not give importance when evaluating their satisfaction with the city.

Table 5.1.1 – Non-response rate

Item	Resposta		Não Resposta		Total
	N	%	N	%	
SGL	178	100,0	0	0,0	178
N1	170	95,5	8	4,5	178
N2	159	89,3	19	10,7	178
N3	176	98,9	2	1,1	178
N4	175	98,3	3	1,7	178
C1	92	51,7	86	48,3	178
C2	144	80,9	34	19,1	178
C3	73	41,0	105	59,0	178
C4	118	66,3	60	33,7	178
C5	76	42,7	102	57,3	178
C6	122	68,5	56	31,5	178
H1	154	86,5	24	13,5	178
H2	154	86,5	24	13,5	178
H3	147	82,6	31	17,4	178
H4	153	86,0	25	14,0	178
H5	150	84,3	28	15,7	178
R1	177	99,4	1	0,6	178
R2	177	99,4	1	0,6	178
R3	173	97,2	5	2,8	178
R4	173	97,2	5	2,8	178
T1	168	94,4	10	5,6	178
T2	81	45,5	97	54,5	178
T3	57	32,0	121	68,0	178
T4	76	42,7	102	57,3	178
T5	88	49,4	90	50,6	178
P1	169	94,9	9	5,1	178
P2	151	84,8	27	15,2	178
P3	159	89,3	19	10,7	178
P4	170	95,5	8	4,5	178
S1	172	96,6	6	3,4	178
S2	171	96,1	7	3,9	178
S3	172	96,6	6	3,4	178
O1	92	51,7	86	48,3	178
AV1	171	96,1	7	3,9	178
AV2	167	93,8	11	6,2	178
AV3	152	85,4	26	14,6	178
AV4	173	97,2	5	2,8	178
FTI	178	100,0	0	0,0	178
EXP	175	98,3	3	1,7	178
LEA1	176	98,9	2	1,1	178
LEA2	177	99,4	1	0,6	178

5.2 – Socio-demographic characterization of the sample

The socio-demographic profile of the tourists was composed of the variables sex, age, level of education/education and nationality. According to Figure 5.2.1, 58% of the tourists interviewed were male.



In the sample of tourists, there is a predominance of interviewees aged between 26 and 35 years, followed by tourists aged between 36 and 50 years. According to Figure 5.2.2, only 23% of respondents are aged between 18 and 25 years.

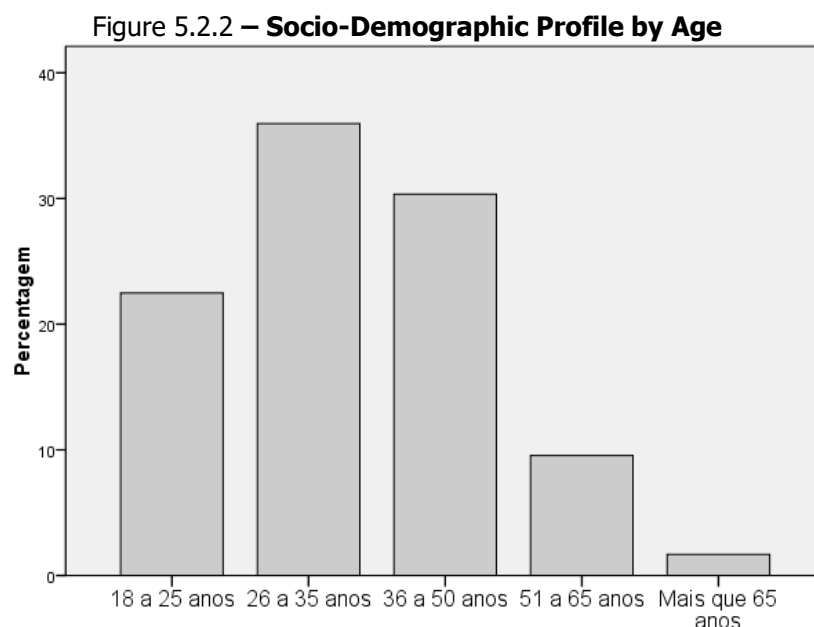
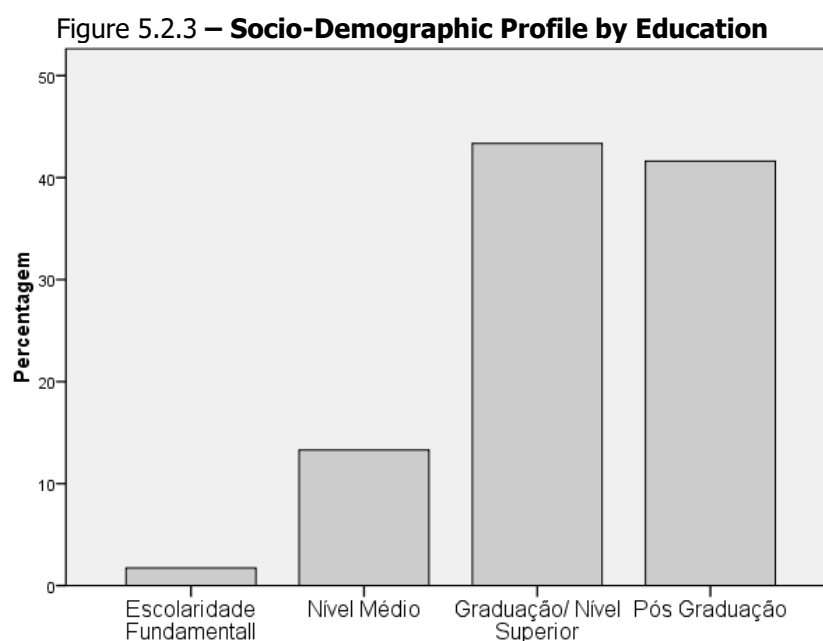
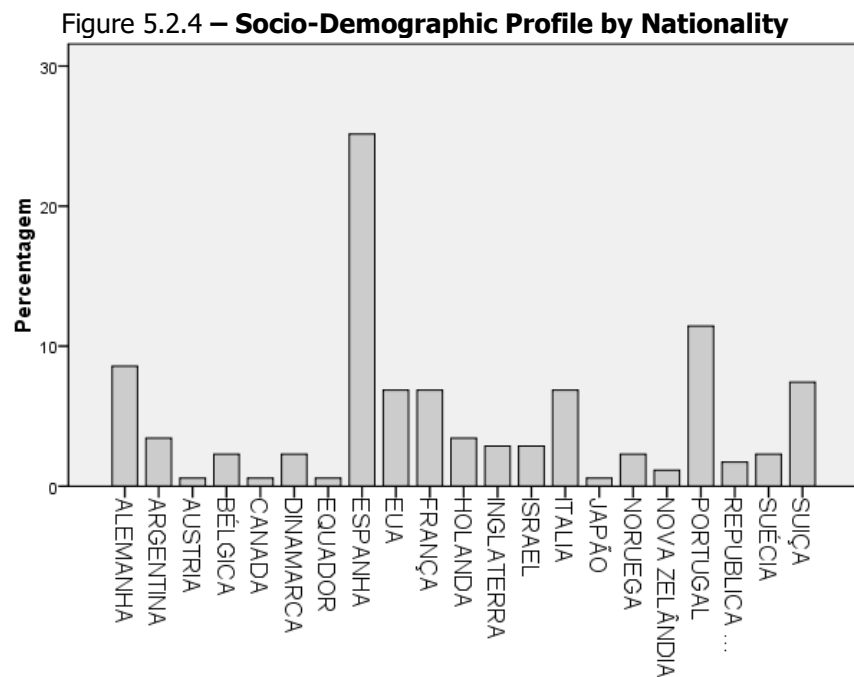


Figure 5.2.3 shows that 82% of the foreign tourists who visit the city of Salvador have an undergraduate or graduate degree.



In terms of nationality, the strong presence of Iberian countries can be highlighted. The Spanish are those with the highest presence with 24% followed by the Portuguese with 12%. Figure 5.2.4 shows the distribution of tourists grouped by nationality.



5.3 – Descriptive analysis of the sample

In the sample of 178 tourists, overall satisfaction registered an average of 7.5 and a standard deviation of 1.8. The distribution of the overall satisfaction data in this study (Figure 5.3.1) is approximate to the distribution proposed by Johnson and Gustafsson (2000) in Figure 4.9.

Figure 5.3.1 – Overall Satisfaction

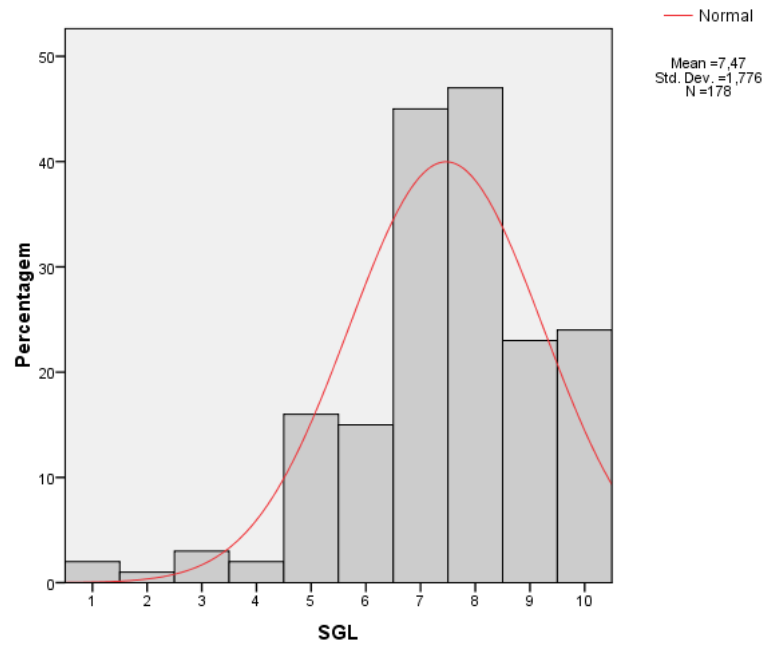
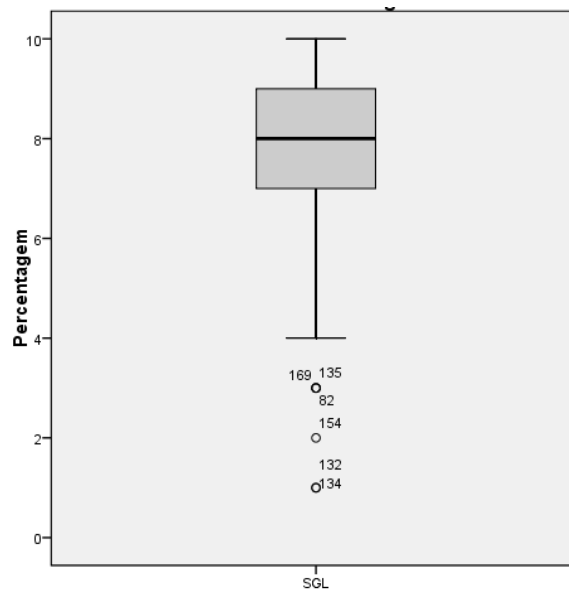


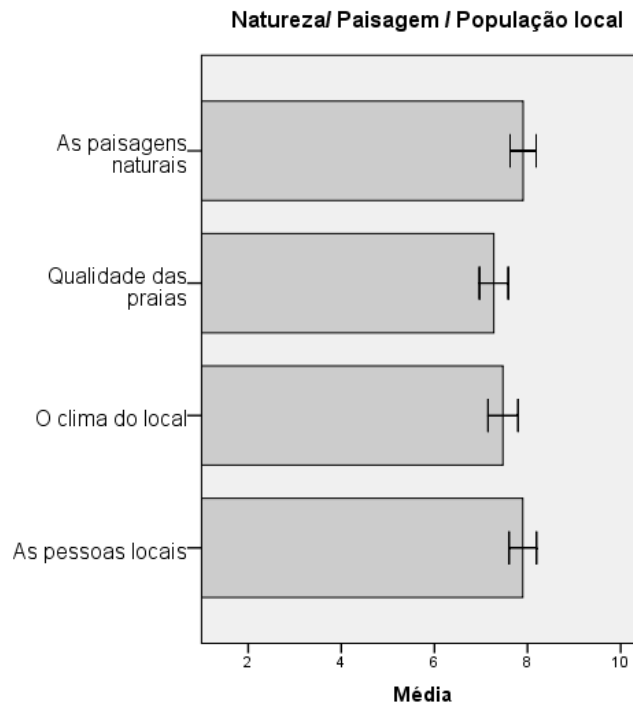
Figure 5.3.2 shows that 75% of respondents gave values greater than 7 for overall satisfaction with the city of Salvador.

Figure 5.3.2 – Overall Satisfaction Distribution



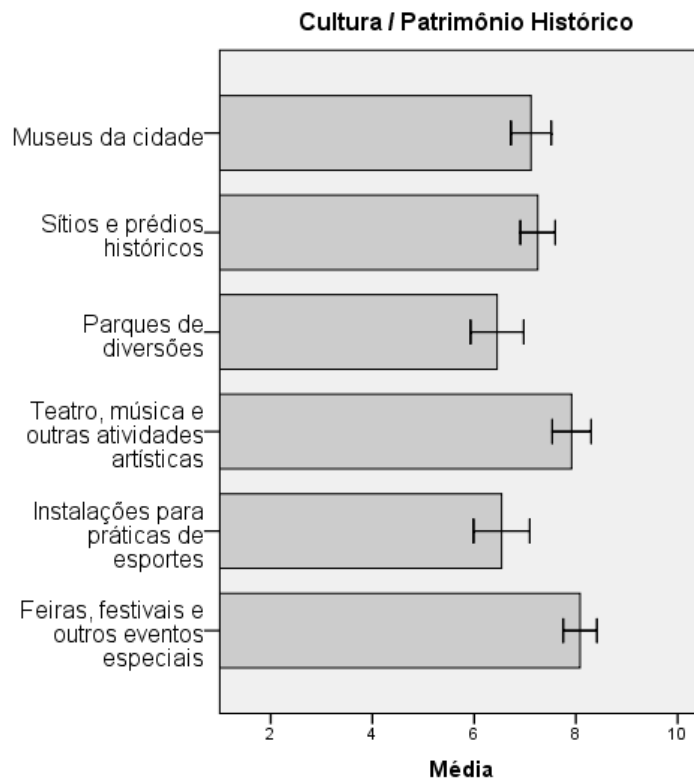
The majority of tourists interviewed consider themselves to be satisfied with the attributes on Nature/Landscape/Local Population, Figure 5.3.3. This is a positive indicator since the survey was carried out in the winter period in Brazil. The average of the attributes has always been higher than 7 values, with the lowest average for the quality of the beaches with a score of 7.3 and the highest for the natural landscapes with 7.9.

Figure 5.3.3 – **Average satisfaction with Nature/Landscape/Local population**



The evaluation of the attributes classified in the Culture/Historical Heritage category is shown in Figure 5.3.4. It can be observed that the highest satisfaction scores are for the attributes for Fairs/Festivals and other special events and Theater/Music and Other Cultural Activities, with 8.08 and 7.92 respectively. The lowest score is Amusement Park with 6.45, which is also the attribute with the highest non-response rate.

Figure 5.3.4 – **Average satisfaction with Culture/Historical Heritage**



For the Accommodation category, Figure 5.3.5, the attributes most valued by tourists was the Quality of Service with an average of 8 followed by the Hotel Location with 7.9. All attributes had mean scores higher than 7 values, the lowest of which was Other Services with 7.45.

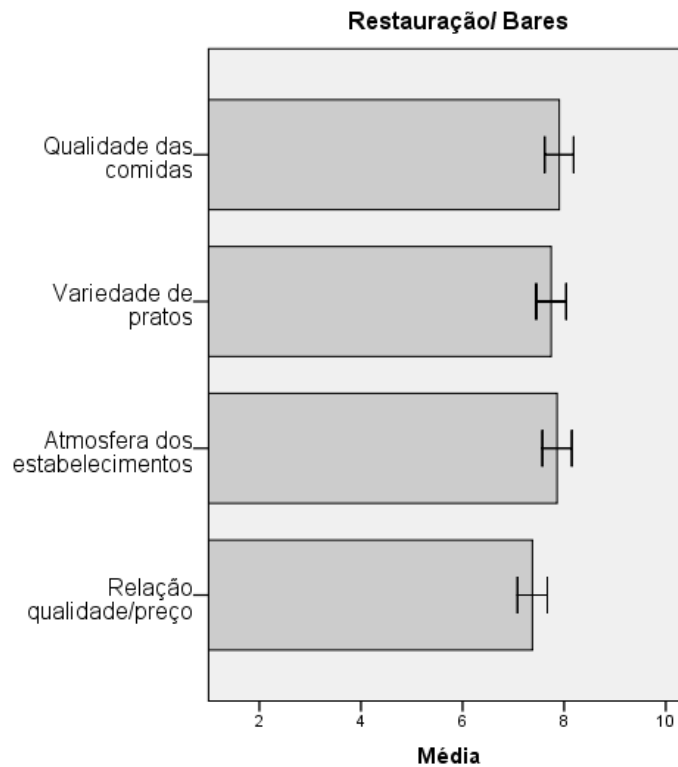
This category was evaluated by 164 tourists, totaling 92% of the tourists interviewed.

Figure 5.3.5 – **Average Satisfaction with Hosting**



With regard to Restaurants/Bars services, Figure 5.3.6, all items recorded an average value above 7 values. The item with the highest average value was Food Quality with 7.9. The Atmosphere of Food Establishments in the capital of Bahia was well valued with 7.86 in the average satisfaction score.

Figure 5.3.6 – **Average satisfaction with Restaurants/Bars**



With regard to Restaurants/Bars services, Figure 5.3.6, all items recorded an average value above 7 values. The item with the highest average value was Food Quality with 7.9. The atmosphere of the food establishments in the capital of Bahia was well valued with 7.86 in the average satisfaction score.

For the category of Transportation, Figure 5.3.7, Air Transportation obtained a higher average score, reaching 7.71. Ships and Boats, Regular Buses, Intercity Rail Services, as well as Car Rental Service had a rate and non-response of more than 50%. Railway Services obtained an average of 5.81.

Figure 5.3.7 – **Average Satisfaction with Transportation**

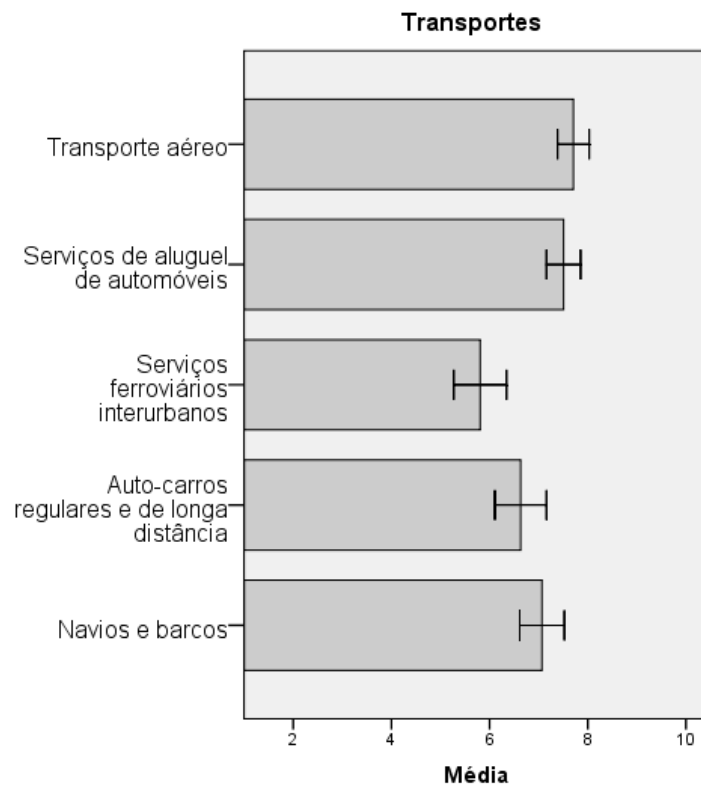
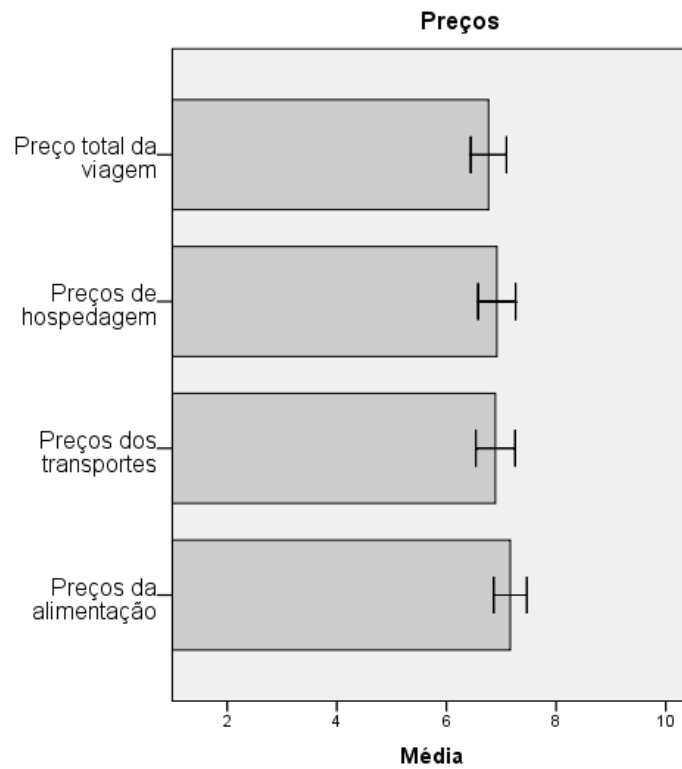


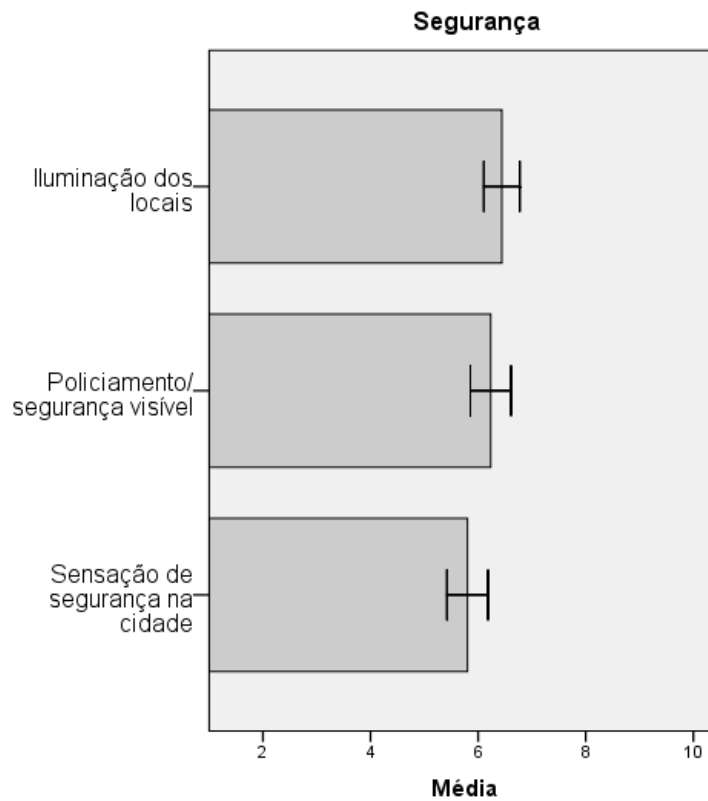
Figure 5.3.8 shows the mean values, as well as the respective standard deviations for the variables in the Prices category.

Figure 5.3.8 – **Average Satisfaction with Prices**



The mean values of the Safety category, Figure 5.3.9, were the lowest. The Feeling of Safety in the city obtained an average score of 5.8, being the lowest value among all the quality attributes analyzed.

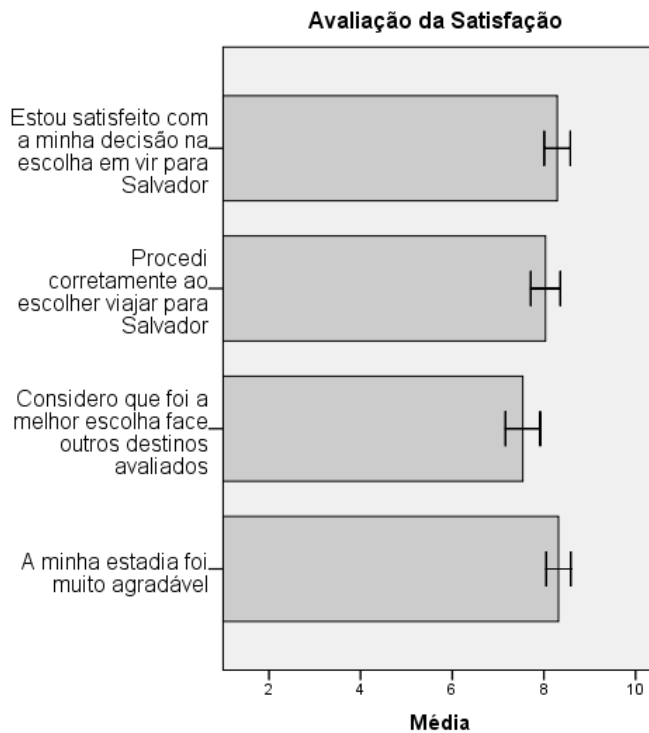
Figure 5.3.9 – **Average satisfaction with Security**



Tourist satisfaction with Guides and Tours, classified in the Other Services category, had an average score of 7 values on the satisfaction scale (Figure 4.5).

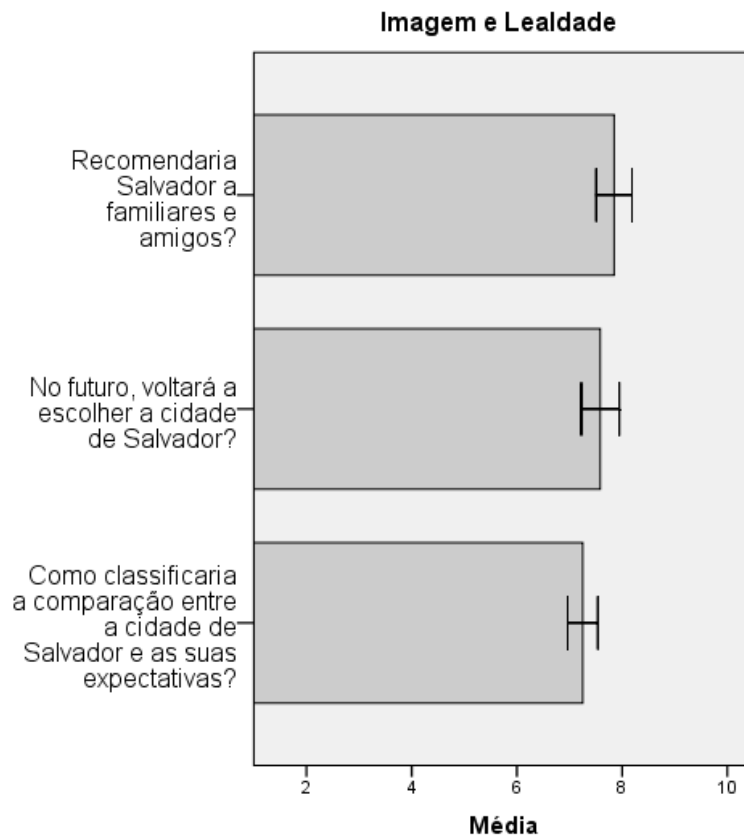
Figure 5.3.10 shows the mean scores of the variables related to the evaluation of satisfaction. These values confirm the overall satisfaction score. The AV3 question can be an important indicator for assessing competitiveness in this sector.

Figure 5.3.10 – **Satisfaction Assessment**



The set of items of the measurement instrument designed to measure loyalty and the image of the city is presented in Figure 5.3.11. Most customers intend to return to the city of Salvador, rating this possibility with a value of 7.6 on a scale of 1 to 10. The highest score was obtained by the variable Recommend the City, with a mean value of 7.85. The Image is measured by comparing previous expectations with lived experience and obtained an average of 7.25 on the scale in Figure 4.7.

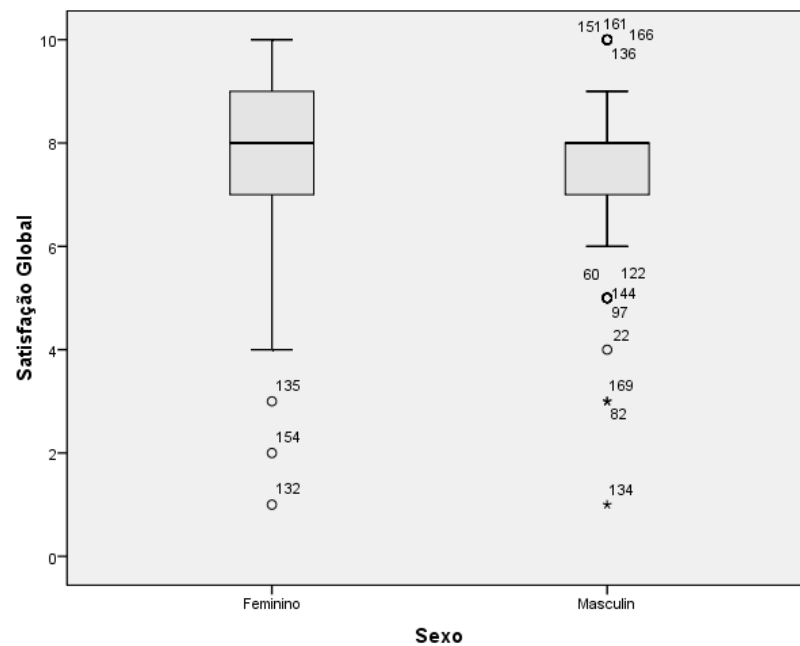
Figure 5.3.11 – **Image and Loyalty**



The knowledge of how socio-demographic variables relate to global satisfaction, to the intention to return, and to the recommendation of a tourist destination provides important information for the development of the tourist destination.

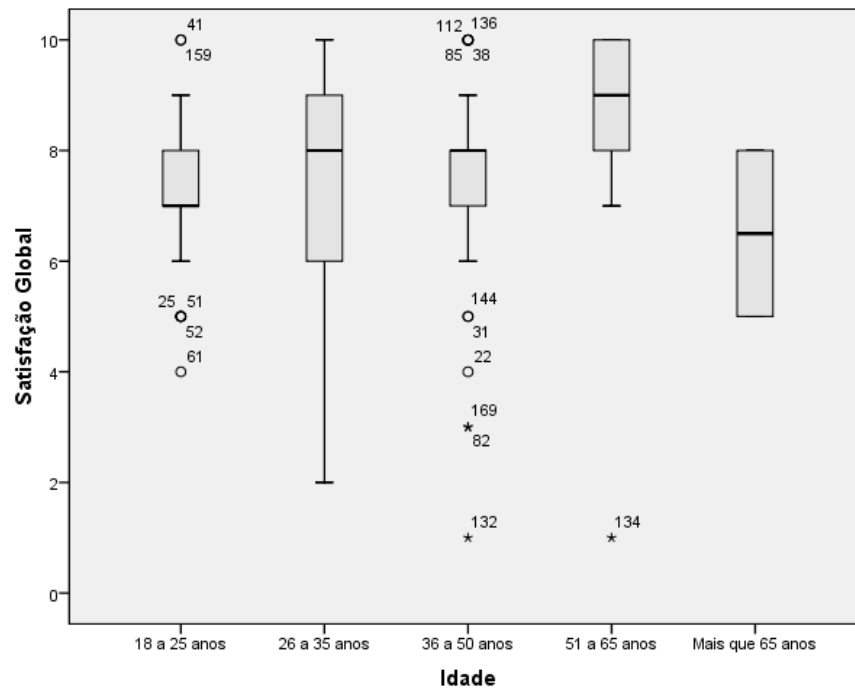
With regard to gender, it is observed that, on average, the levels of global satisfaction are similar for both sexes, with a slight concentration of females in the highest levels. However, it is worth noting a greater dispersion of opinions among women, since the minimum score attributed by them (4) is much lower than that attributed by men (6). It is also worth noting the presence of some outliers in both men and women.

Figure 5.3.12 – **Global Satisfaction vs Gender**



Regarding age, it is possible to state that those aged between 51 and 65 years, followed by those aged between 26 and 35 years, have the highest levels of overall satisfaction, with averages of 9 and 8, respectively. However, it should be considered that there is a very significant dispersion in the opinions of those aged between 26 and 35 years, since the minimum assigned was 2 and the maximum was 10.

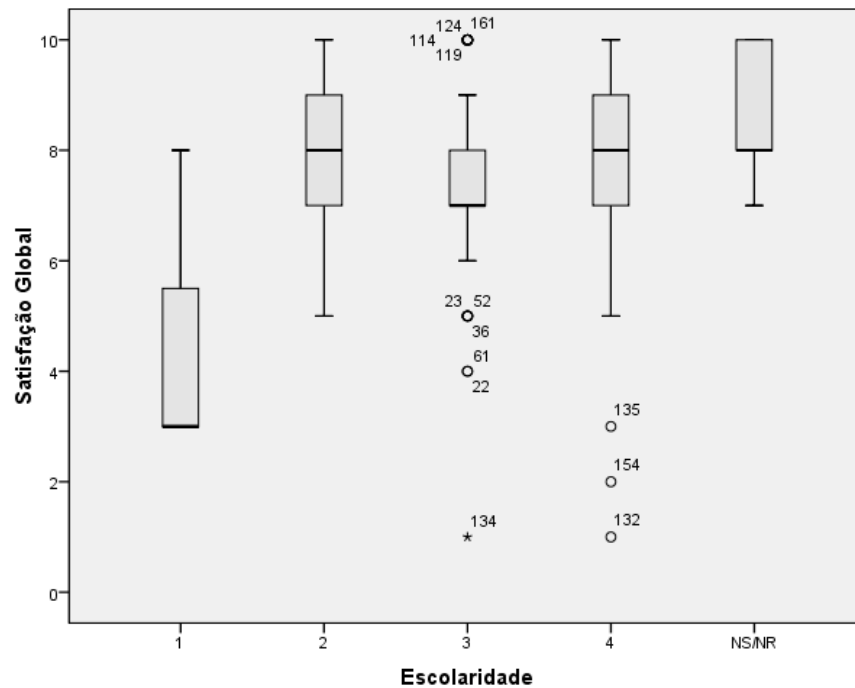
Figure 5.3.13 – Global satisfaction vs age



Regarding the level of education, it is observed that the interviewees with secondary education and post-graduate degrees have higher levels of Global Satisfaction than the other interviewees. It should be noted that those with basic education had the lowest level of overall satisfaction, with an average of 3. The median Global Satisfaction for those with secondary education and postgraduates is 8, while for graduates it is 7.

It is also worth mentioning the presence of a greater number of outliers among respondents with higher education.

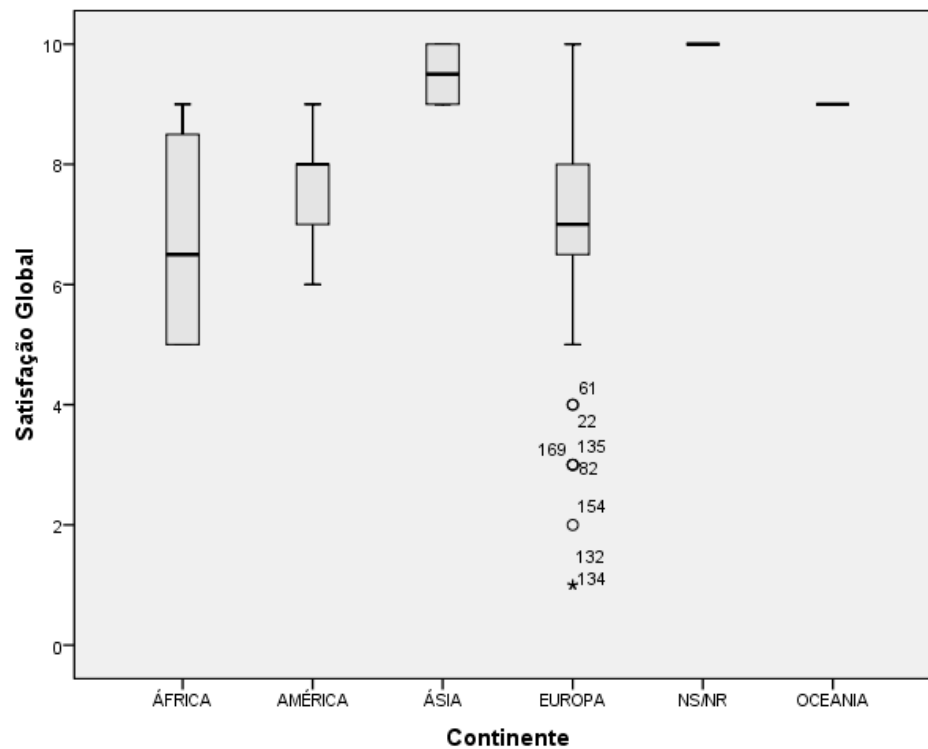
Figure 5.3.14 – **Global satisfaction vs schooling**



Tourists from Asia had the highest levels of overall satisfaction, with an average of more than 9 and a small interquadrantic amplitude, which indicates a homogeneity of opinions.

Those belonging to the European continent obtained an average of global satisfaction 7 and present the highest level of dispersion when compared to the other interviewees, this implies a greater divergence of opinions. There is also the presence of a greater number of outliers among the interviewees from this continent.

Figure 5.3.15 – **Global Satisfaction vs Continent of Origin**

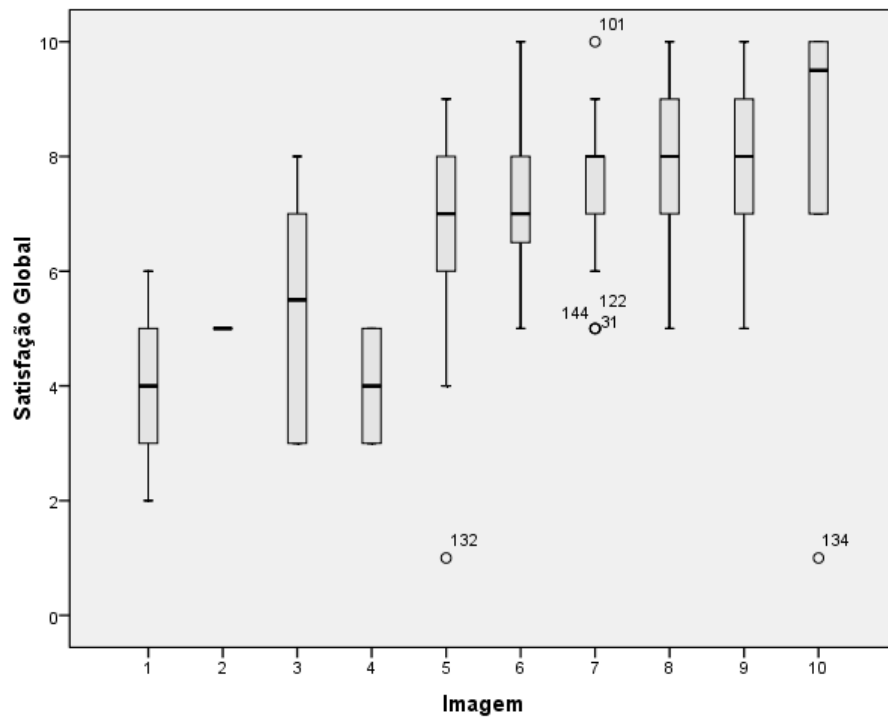


It is observed that the better the image that the tourist had of the city, the higher his level of overall satisfaction with it. Thus, those who evaluated the image in 10 had the highest level of global satisfaction, with a mean higher than 9 and a low interquadratic amplitude.

Those who evaluated the image they had of the city in a more negative way had the lowest average of satisfaction, 4. It is also observed that the lowest score attributed, 2, also belongs to those with the lowest image level.

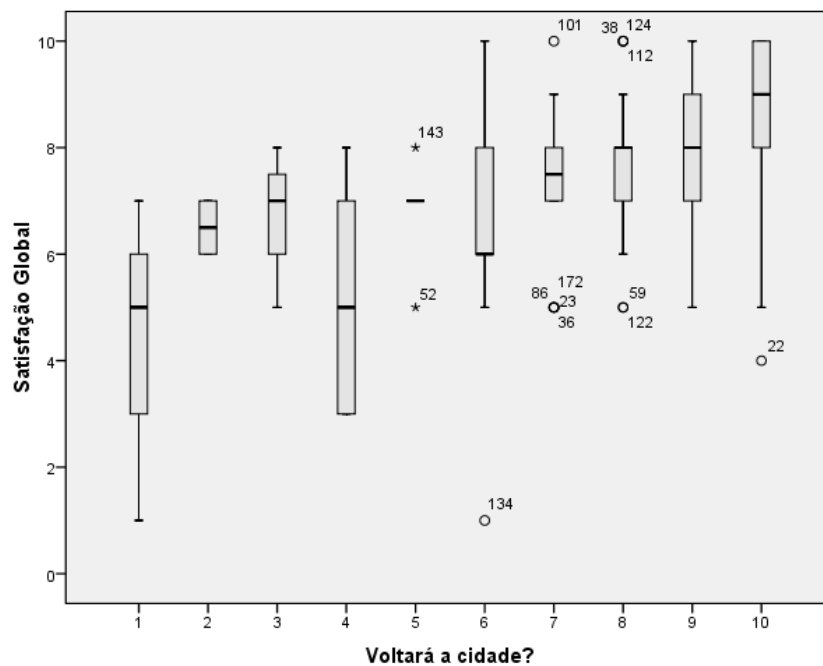
The existence of a linear relationship between the variables, image and overall satisfaction of the tourist becomes evident.

Figure 5.3.16 – **Global Satisfaction vs Image**



As expected, the respondents who presented the highest levels of global satisfaction are those who said they certainly return to the city, with averages between 8 and 9. However, it is worth noting the high dispersion or divergence between the opinions of the interviewees as a whole regarding the item in question, since even those who said they returned obtained low scores in terms of general satisfaction.

Figure 5.3.17 – Overall Satisfaction vs Intention to Return



It is possible to say that the greater the overall satisfaction of the interviewed tourist, the greater the possibility of recommending the city.

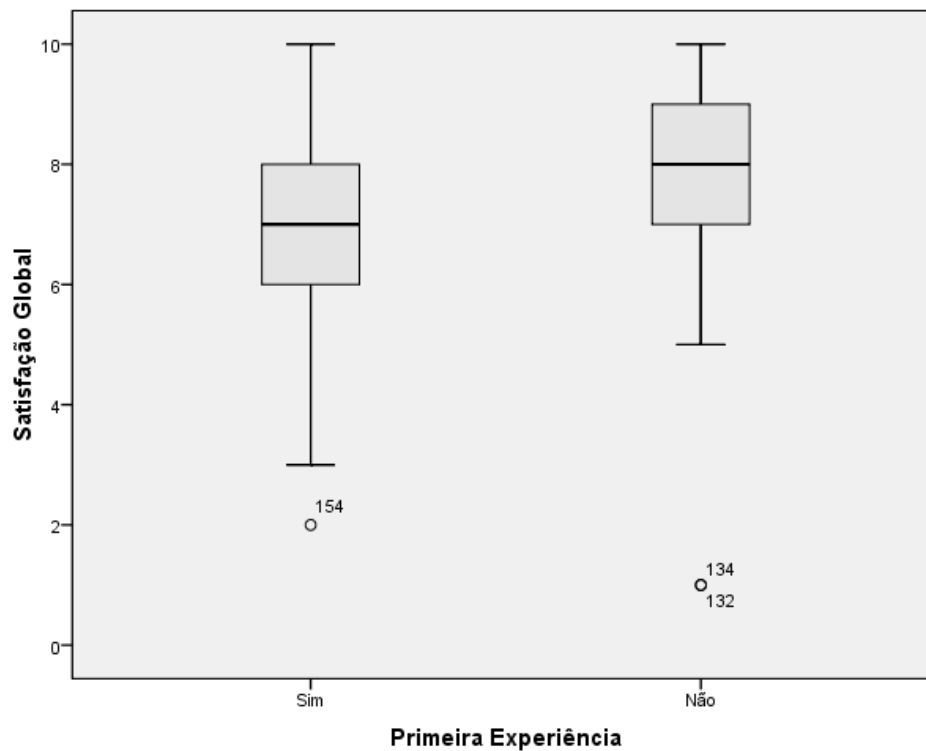
It is observed that most of the interviewees who evaluated the possibility of recommending the city in 10 have levels of overall satisfaction between 8 and 10.

It is worth considering the existence of a significant inter-quadratic amplitude among those who evaluated the possibility of recommending the city in 1. Regarding their overall satisfaction, they have scores of at least 1 and at most 7.

The interviewees who already knew the city of Salvador showed a higher degree of overall satisfaction with the city than those who stated that it was the first experience of visiting it, with averages of 8 and 7, respectively.

There is also a greater dispersion among those who were having their first experience with the city, with scores ranging from 3 to 10.

Figure 5.3.18 – Overall Satisfaction vs First Time in Salvador



5.4 – Multivariate analysis for the ISLT

Multivariate analysis techniques presuppose the absence of non-response or omitted values. The assessment of the response rate has already been studied in section 5.1 of this chapter.

As shown in Table 5.1.1, items C1 - City Museums, C3 - Amusement Parks, C5 - Sports Facilities and O1 - Other Services showed a high non-response rate, above 40%, and it was decided to eliminate the multivariate analysis.

In the group of questions referring to Transport services, all items, except T1 - Air Transport (5.6%) presented non-response rates above 40%. However, it was decided to keep this group, only the questions T1 - Air Transport (5.6%) and T2 - Car

Rental Service, due to other studies showing that it is a determining factor for tourist satisfaction.

The resolution of the problem of non-responses goes through the process of estimating the omitted values. The treatment of non-responses was performed according to the method of means using the SAS software.

5.4.1 – Exploratory factor analysis

To understand the structure of correlations between the data and to identify the number of dimensions that explain these correlations, an Exploratory Factor Analysis (EFA) of the quality items was carried out. The outputs of this analysis by using the SPSS software can be found in ANNEX IV.

The model variables showed correlations with each other, indicating that there was a moderate positive linear relationship between them. The prerequisites of the exploratory factor analysis were ascertained, which indicated the application of the technique, as the KMO was higher than the acceptable level (0.70) and the Bartlett test $p < 0.05$.

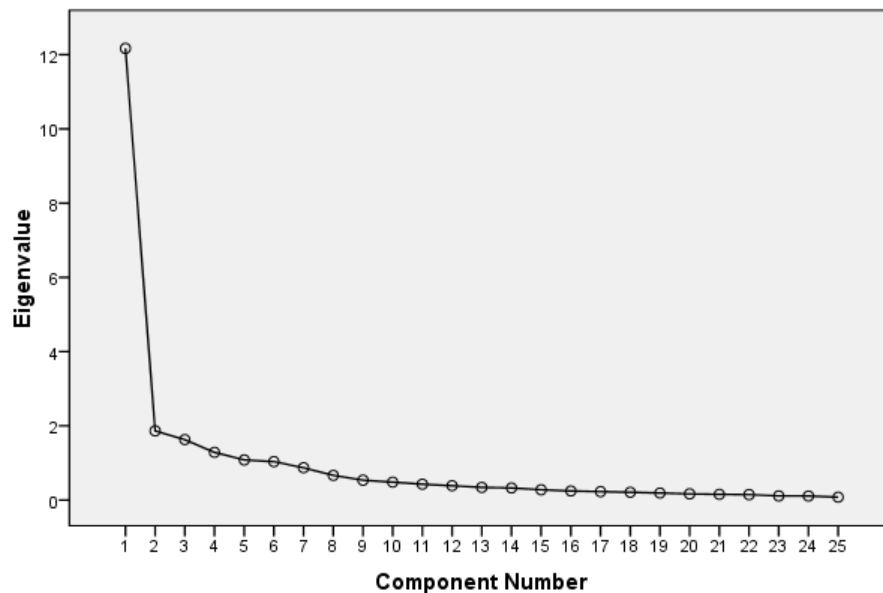
Table 5.4.1 – Measure of the adequacy of the factor analysis

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,916
Bartlett's Test of Sphericity	Approx. Chi-Square	3678,431
	DF	300,000
	Sig.	,000

According to the Kaiser criterion, which suggests retaining factors whose proper value is greater than 1, 6 factors were retained. The analysis of the scree plot

Figure 5.4.1 suggests the retention of six factors. It was decided to use a factorial structure with 7 components, as it leads to more easily interpretable factors that explain approximately 80% of the total variability, as shown in Table 5.4.2.

Figure 5.4.1 – **Scree Plot – Component Number vs Eigenvalues**
Scree Plot



The original solution has factors that are not easily interpretable. In this sense, it was rotated using the varimax method. The results obtained are easy to interpret and group the items of the same attribute.

The variables that most contribute to the formation of the 1st factor are the attributes of the Accommodation, the most important being H1 - Hotel infrastructure and H4 - Available services. This factor is responsible for explaining 48.67% of the total variability of the data.

The variables that most influence the 2nd factor are related to Price attributes, mainly P4 – Food prices and P2 – Accommodation prices.

The aspects of Catering are the ones that most contribute to the formation of the 3rd factor, with R2 – Variety of dishes and R1 – Qualities of food being the most important for this factor.

The aspects of Safety, S3- Sense of security in the city and S2- Policing/visible safety are the ones that contribute the most to the 4th factor.

Attributes of Culture such as C6 - Fairs, festivals and other events and C4 - Theater, music and other artistic activities mainly influence the formation of the 5th factor called Culture.

The variables that most contribute to the formation of the 6th factor are those related to aspects of Nature, the most important being N2 - Quality of beaches and N1 - Natural landscapes.

Notably the last factor is mainly formed by the aspects of Transportation, mainly by T2-Car rental services and T1- Air transportation.

Before any change in the model, the scale was submitted to the reliability test of the research instrument by Cronbach's Alpha coefficient, presented in Table 5.4.2. The coefficients calculated for each construct presented values above the minimum (0.60), attesting to the internal consistency of the items that define each of the factors.

Table 5.4.2 – Factorial structure of the questionnaire.
Principal Components Method and Varimax Rotation

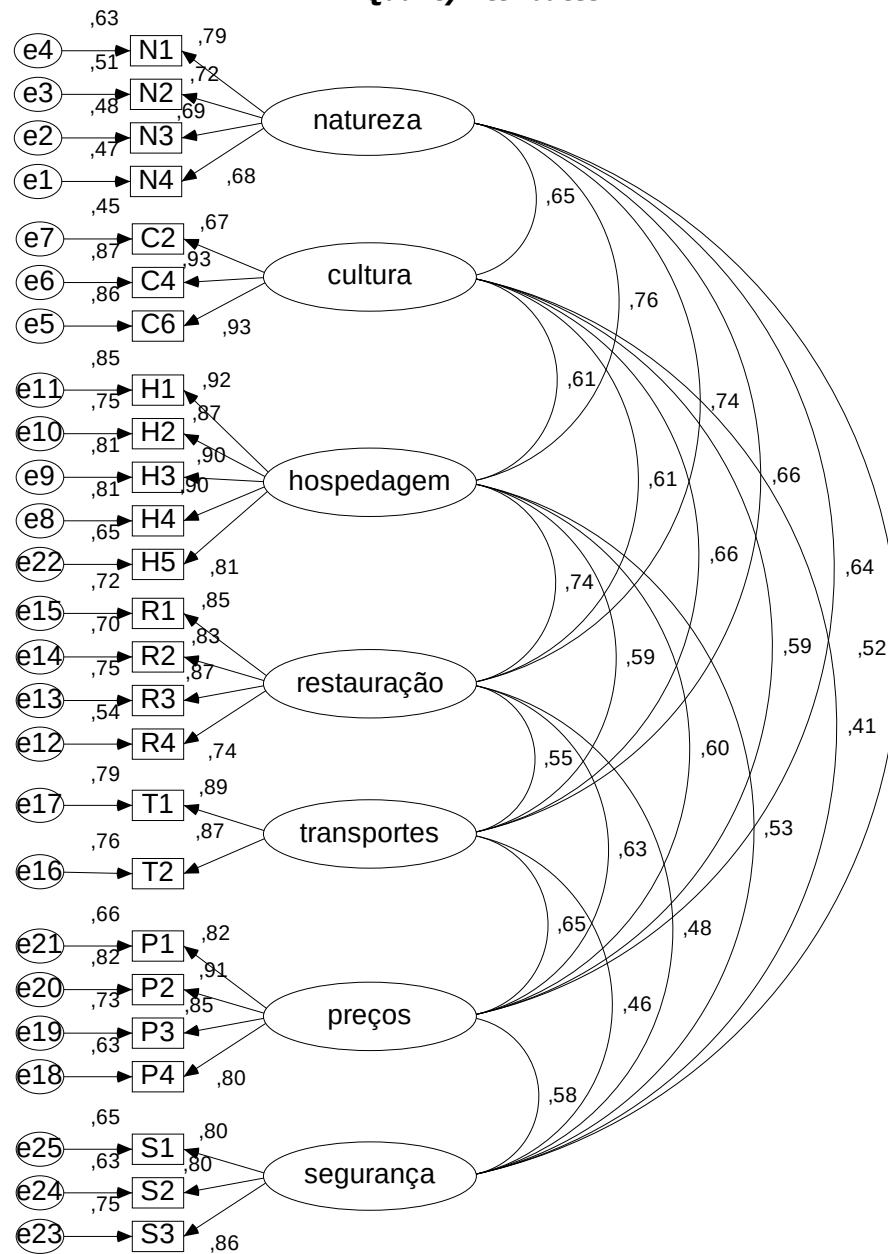
Items	Hosting	Prices	Restoration	Safety	Culture	Nature	Transport
N1	0,306	0,153	0,199	0,047	0,279	0,687	0,166
L2	0,244	0,203	0,089	0,164	0,155	0,746	0,008
N3	0,264	0,161	0,280	0,022	-0,013	0,649	0,274
N4	0,172	0,160	0,221	0,414	0,174	0,562	0,105
C2	0,253	0,221	0,220	0,022	0,630	0,020	0,318
C4	0,236	0,205	0,152	0,128	0,819	0,233	0,160
C6	0,193	0,220	0,198	0,156	0,810	0,207	0,151
H1	0,809	0,150	0,270	0,154	0,208	0,219	0,143
H2	0,772	0,156	0,181	0,148	0,251	0,295	0,030
H3	0,786	0,270	0,226	0,116	0,240	0,155	0,132
H4	0,805	0,185	0,154	0,215	0,172	0,239	0,135
H5	0,704	0,194	0,259	0,247	0,021	0,197	0,250
R1	0,253	0,181	0,812	0,110	0,182	0,172	0,085
R2	0,224	0,073	0,827	0,169	0,156	0,213	0,129
R3	0,388	0,285	0,628	0,215	0,199	0,259	0,102
R4	0,275	0,562	0,568	-0,026	0,188	0,120	0,027
T1	0,194	0,288	0,172	0,103	0,237	0,246	0,764
T2	0,241	0,198	0,074	0,217	0,328	0,132	0,765
P1	0,085	0,751	0,129	0,173	0,135	0,167	0,344
P2	0,220	0,782	0,111	0,214	0,143	0,207	0,228
P3	0,207	0,729	0,081	0,356	0,203	0,112	0,134
P4	0,234	0,791	0,221	0,128	0,200	0,167	-0,015
S1	0,193	0,292	0,053	0,723	0,275	0,210	-0,003
S2	0,105	0,171	0,115	0,810	0,067	0,100	0,158
S3	0,234	0,125	0,125	0,883	-0,018	0,042	0,088
α-Cronbach's	0,943	0,906	0,891	0,858	0,87	0,81	0,871
% Variance Explained	48,68	7,45	6,51	5,14	4,32	4,14	3,48

5.4.2 – Confirmatory factor analysis

In order to evaluate the validity of the constructs obtained, a Confirmatory Factor Analysis (CFA) was carried out using the AMOS software, version 16.1.

The measurement models for the quality attributes as well as the estimates of their parameters can be seen in Figure 5.4.2.

Figure 5.4.2 – **Confirmatory Factor Analysis of the Measurement Models Quality Attributes**



The analysis of the adjustment indices of the model for measuring quality attributes, Table 5.4.3, allows us to conclude that the models present adjustment indices that are far from the reference values of these statistics, with the exception of the CFI value.

Table 5.4.3 – **Adjustment and Parsimony Index for the measurement models Quality Attributes**

Adjustment Index	Reference Value (Good fit)	Original Measurement Models
χ^2/DF	≤ 2	2,26
GFI	0,9-0,95	0,81
AGFI	0,9-0,95	0,75
RMR	≤ 0.5	0,25
RMSEA	≤ 0.05	0,08
CFI	≥ 0.9	0,91
NFI	≥ 0.9	0,85
TLI	≥ 0.9	0,89
PR	≥ 0.9	0,85
PNFI	≥ 0.9	0,72

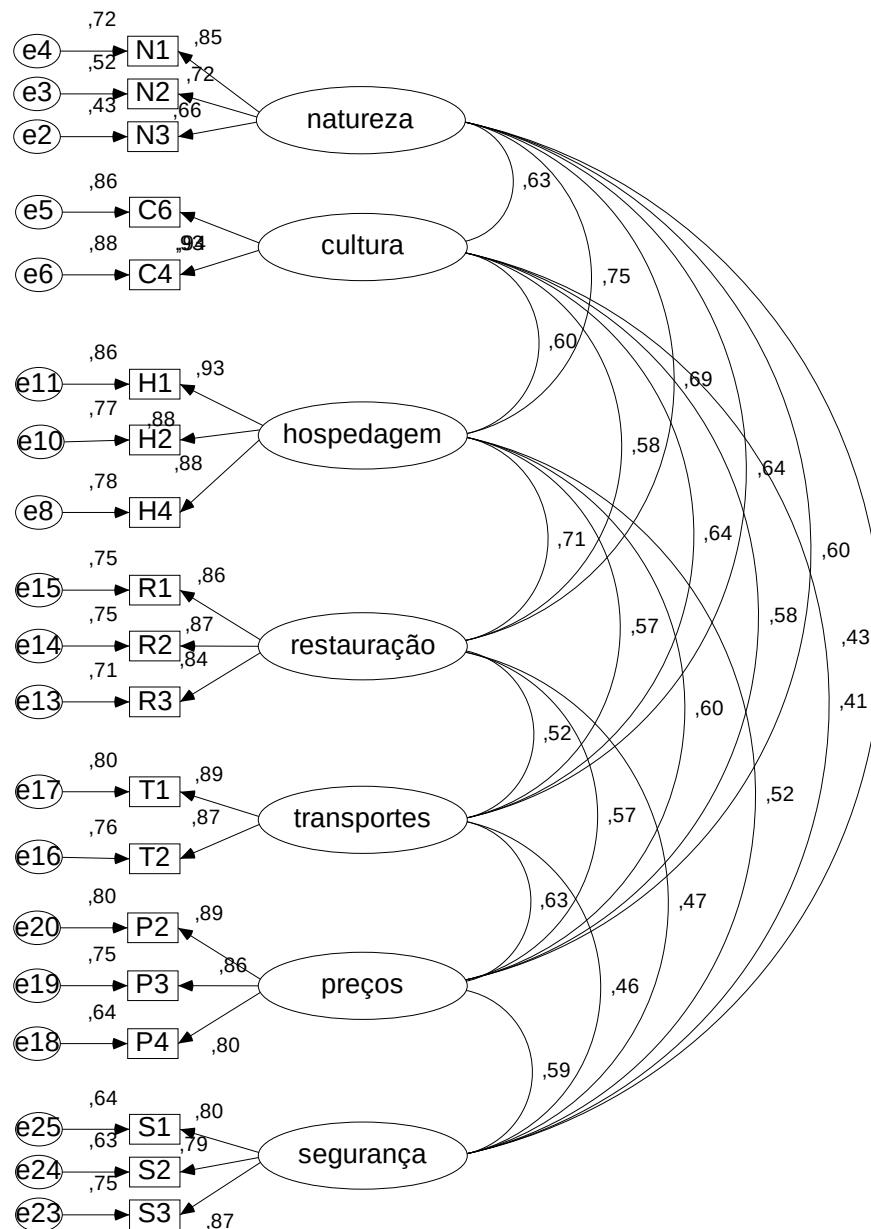
These values can be improved by analysing the Change Indexes. Items that have larger errors can be eliminated since the correlation between them suggests that the items measure the same characteristic, provided that in theoretical terms this is acceptable.

Table 5.4.4 – **Modification Index for the measurement models**
Quality Attributes

			Par					Par	
			M.I.	Change				M.I.	Change
e25 <-->	segurança		4,281	-0,432	e10 <-->	e25		4,838	0,242
e25 <-->	cultura		9,428	0,43	e10 <-->	e20		4,754	-0,172
e23 <-->	cultura		6,417	-0,376	e9 <-->	natureza		5,01	-0,187
e22 <-->	transportes		4,124	0,291	e9 <-->	e24		5,796	0,307
e22 <-->	cultura		5,808	-0,292	e9 <-->	e23		6,347	-0,306
e22 <-->	e25		6,083	-0,361	e9 <-->	e22		8,429	-0,284
e22 <-->	e23		16,483	0,631	e9 <-->	e12		24,076	0,524
e21 <-->	transportes		7,778	0,403	e8 <-->	restauração		6,507	-0,178
e21 <-->	hospedagem		4,431	-0,233	e8 <-->	e20		15,065	0,291
e19 <-->	segurança		9,751	0,585	e8 <-->	e19		4,356	-0,189
e19 <-->	e23		6,827	0,407	e8 <-->	e9		11,746	0,234
e18 <-->	transportes		4,492	-0,3	e7 <-->	transportes		6,058	0,413
e18 <-->	restauração		5,021	0,218	e7 <-->	cultura		5,578	-0,334
e17 <-->	e21		6,238	0,313	e7 <-->	e12		4,425	0,337
e15 <-->	restauração		4,063	0,169	e6 <-->	e25		11,046	0,341
e14 <-->	preços		11,635	-0,354	e6 <-->	e23		4,67	-0,235
e14 <-->	restauração		6,119	0,22	e6 <-->	e10		6,106	0,165
e14 <-->	e18		5,169	-0,266	e5 <-->	e13		4,516	0,154
e14 <-->	e15		25,883	0,516	e4 <-->	segurança		4,723	-0,408
e13 <-->	restauração		9,237	-0,243	e4 <-->	e23		6,392	-0,395
e13 <-->	e22		6,05	0,266	e4 <-->	e10		7,499	0,262
e13 <-->	e15		6,866	-0,239	e4 <-->	e7		6,502	-0,381
e12 <-->	segurança		5,982	-0,494	e3 <-->	e4		6,758	0,361
e12 <-->	preços		24,934	0,601	e2 <-->	cultura		5,226	-0,354
e12 <-->	e23		6,568	-0,43	e2 <-->	e19		8,133	-0,464
e12 <-->	e18		30,46	0,747	e2 <-->	e17		6,372	0,401
e12 <-->	e14		5,02	-0,282	e2 <-->	e7		4,28	0,393
e11 <-->	e24		4,179	-0,229	e1 <-->	segurança		15,344	0,857
e11 <-->	e22		4,172	0,174	e1 <-->	e23		5,733	0,436
e11 <-->	e12		6,277	-0,234	e1 <-->	e9		6,591	-0,297
e10 <-->	natureza		5,003	0,18	e1 <-->	e4		6,608	-0,377

With the analysis of Table 5.4.4, the attributes with the highest MI were eliminated. The refined model for the quality attributes as well as the parameter estimates are presented in Figure

Figure 5.4.3 – **Confirmatory Factor Analysis of the Measurement Models *REFINED* Quality Attributes**



The refined measurement model presents better adjustment ratios, which are presented in Table 5.4.5. The X^2/DF , GFI, AGFI, RMR, CFI, NFI and TLI indices allow us to affirm that the model is well adjusted. Regarding the parsimony of the new model, it can be seen that it is inferior.

Table 5.4.5 – **Adjustment and Parsimony Index for the measurement models**
Original and Refined
Attributes of Quality

Adjustment Index	Reference Value (Good fit)	Original Measurement Models	Refined Measurement Models
X ² /DF	≤2	2,26	2,00
GFI	0,9-0,95	0,81	0,88
AGFI	0,9-0,95	0,75	0,82
RMR	≤0.5	0,25	0,22
RMSEA	≤0.05	0,08	0,07
CFI	≥0.9	0,91	0,95
NFI	≥0.9	0,85	0,90
TLI	≥0.9	0,89	0,93
PR	≥0.9	0,85	0,77
PNFI	≥0.9	0,72	0,70

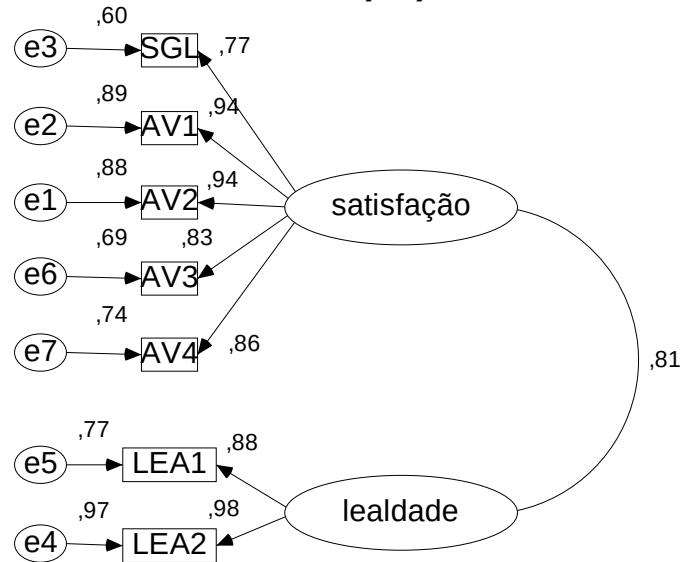
The contribution of each item to the corresponding factor is greater than 0.8 in most factors. The factorial weight of each of the items is in all cases statistically significant.

Table 5.4.6 – **Result of the confirmatory factor analysis for the measurement models**
Quality Attributes

Factor	Indicador	Factorial	Significância
Natureza	N1	0,847	p<0,001
	N2	0,724	p<0,001
	N3	0,656	p<0,001
Cultura	C4	0,937	p<0,001
	C6	0,927	p<0,001
Hospedagem	H1	0,927	p<0,001
	H2	0,879	p<0,001
	H4	0,881	p<0,001
	H4	0,881	p<0,001
Restauração	R1	0,865	p<0,001
	R2	0,867	p<0,001
	R3	0,844	
Transportes	T1	0,892	p<0,001
	T2	0,871	p<0,001
Preços	P2	0,893	p<0,001
	P3	0,864	p<0,001
	P4	0,801	p<0,001
Segurança	S1	0,802	p<0,001
	S2	0,794	p<0,001
	S3	0,867	p<0,001

Tourist Satisfaction as well as their Loyalty were also measured by a set of items. These two constructs were also subjected to confirmatory factor analysis. The measurement model for these two factors is shown in Figure 5.4.4.

Figure 5.4.4 – **Confirmatory Factor Analysis of the Measurement Models Satisfaction and Loyalty Attributes**



The analysis of Table 5.4.7 shows that the measurement models do not fit the data well. The Chi-square index is much higher than the reference index. Its refinement was carried out through the IM with the elimination of items AV2 and AV3 because they presented very high MI.

Table 5.4.7 – **Adjustment and Parsimony Index for the measurement models Satisfaction and Loyalty Attributes**

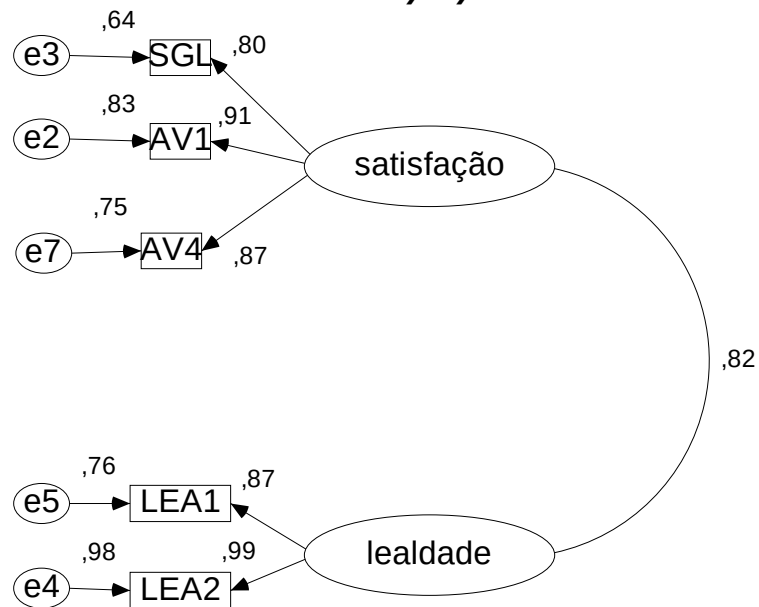
Adjustment Index	Reference Value (Good fit)	Original Measurement Models	Refined Measurement Models
X ² /DF	≤2	4,73	1,26
GFI	0,9-0,95	0,90	0,99
AGFI	0,9-0,95	0,79	0,96
RMR	≤0.5	0,15	0,07
RMSEA	≤0.05	0,14	0,04
CFI	≥0.9	0,96	0,99
NFI	≥0.9	0,95	0,99
TLI	≥0.9	0,94	0,99
PR	≥0.9	0,62	0,40
PNFI	≥0.9	0,59	0,40

Table 5.4.8 – **Modification Index for the measurement models Satisfaction and Loyalty Attributes**

			M.I.	Par Change
e6	<-->	e7	25,858	0,5
e3	<-->	lealdade	4,804	0,265
e2	<-->	e6	10,942	-0,255
e1	<-->	e7	4,765	-0,139
e1	<-->	e6	4,514	-0,183
e1	<-->	e3	5,385	-0,169
e1	<-->	e2	16,948	0,197

The new model obtained through refinement by the Modification indexes is shown in Figure 5.4.5.

Figure 5.4.5 – **Confirmatory Factor Analysis of Refined Measurement Models For the Satisfaction and Loyalty Attributes**



The contribution of the items is higher in all cases than 0.8 and the values of the adjustment indices attest to a good adjustment.

Table 5.4.9 – **Result of the confirmatory factor analysis for the measurement models**

Satisfaction and Loyalty

Factor	Indicador	Peso Factorial	Significância
Satisfação	SGL	0,803	p<0,001
	AV1	0,91	p<0,001
	AV4	0,868	
Lealdade	LEA1	0,872	p<0,001
	LEA2	0,988	p<0,001

5.4.3 – Convergent and discriminant validity of the measurement model

For each construct, convergent validity was verified, which indicates, according to Malhotra (2001), the extent to which the scale is positively correlated with other measures of the same construct. The verification of convergent validity was performed by examining the statistical significance of the parameters estimated by confirmatory factor analysis (CFA), observing the respective t-values. According to the examination of statistical significance, convergent validity is considered acceptable when each of the factor loadings (estimated weights) related to the construct indicators is statistically significant, i.e., p-value<0.05 or t-value greater than or equal to 1.96.

Discriminant validity assesses the degree to which a measure does not correlate with other constructs. Thus, the discriminant validity of the constructs of the proposed model was evaluated pair by pair in order to evaluate whether the latent variables were uncorrelated and, therefore, discriminant. This procedure done through the chi-square difference.

As the measurement instrument has convergent and discriminant validity, it can be concluded that it has construct validity.

5.4 – ISLT Structural Model for the city of Salvador

From the construct validity of the measurement models, it is possible to establish a causal relationship between the attributes. The relationship between the variables of quality, satisfaction and loyalty is widely studied. From the analysis of the studies of National Satisfaction Indexes, it can be inferred that quality factors are antecedents of satisfaction. It is also widely accepted that satisfaction has an important influence on loyalty. Authors such as Johnson and Gustafsson (2000) also argue that quality factors can have a direct effect on loyalty. Based on the whole theory, a conceptual model is presented in Figure 5.4.6.

The adjustment indices for this model are very close to the reference values and are strong indicators of a good fit. The adjustment indices are presented in Table 5.4.10.

Figure 5.4.6 – **Structural Model with the relationship between the factors of the Quality, Satisfaction and Loyalty**

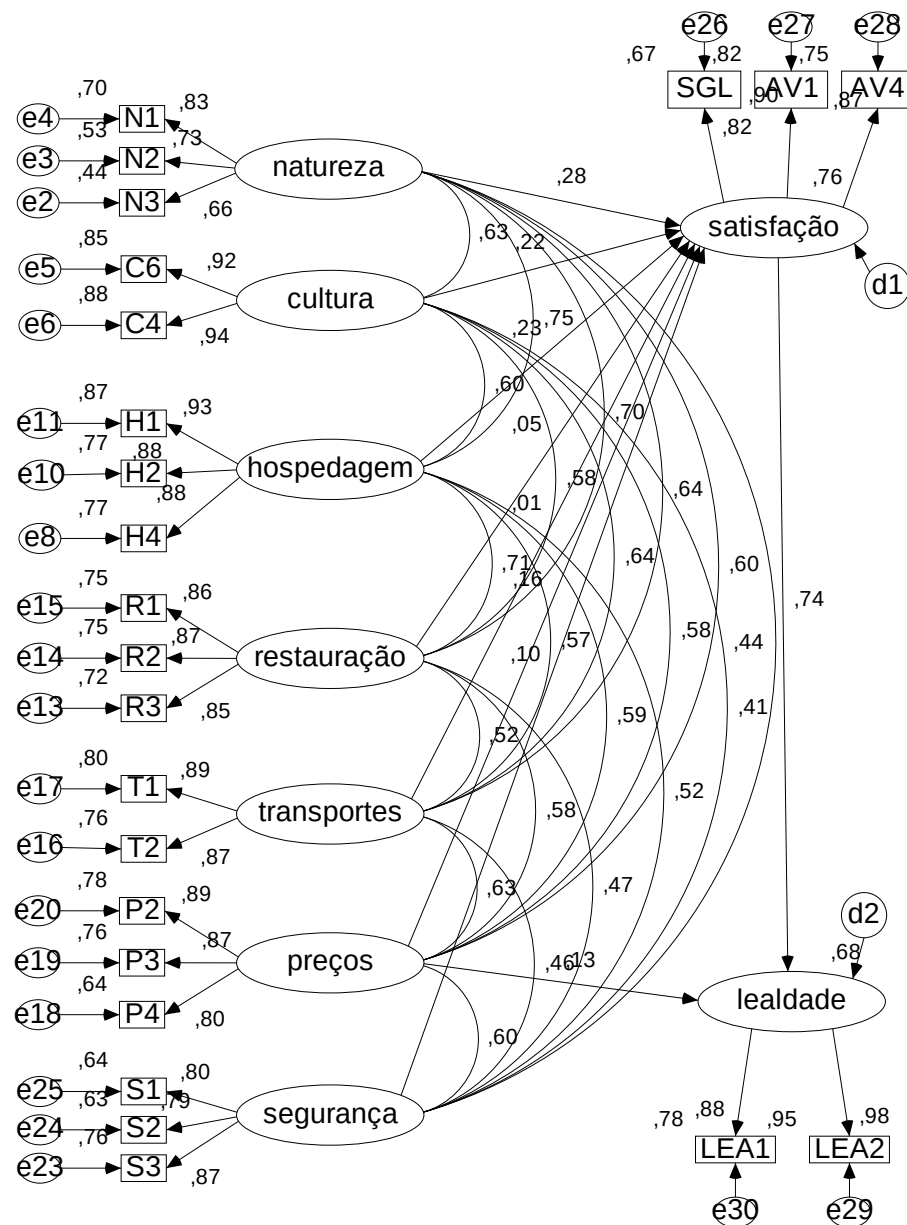


Table 5.4.10 – **Adjustment and Parsimony Index for the ISLT structural model**

Adjustment Index	Reference Value (Good fit)	Original Structural Models	Refined Structural
X ² /DF	≤2	1,88	1,44
GFI	0,9-0,95	0,85	0,90
AGFI	0,9-0,95	0,79	0,96
RMR	≤0.5	0,21	0,15
RMSEA	≤0.05	0,07	0,50
CFI	≥0.9	0,94	0,98
NFI	≥0.9	0,89	0,93
TLI	≥0.9	0,93	0,97
PR	≥0.9	0,80	0,72
PNFI	≥0.9	0,71	0,67

Table 5.4.11 presents the impact coefficients as well as their significance. The impacts of nature, culture, accommodation, prices and safety on satisfaction are positive and statistically significant, which indicates that these factors positively influence satisfaction. The impact between the constructs satisfaction and loyalty is confirmed in the model with 99% confidence. From the interpretation of the results, it can be concluded that there is no significant evidence indicating the impact of the price factor on loyalty.

Table 5.4.11 – **Impact Coefficients - ISLT Results**

Trajetórias			Coeficientes de Impacto (β ou γ)	Significância
satisfação	<---	natureza	0,275	p<0,001
satisfação	<---	cultura	0,193	p<0,001
satisfação	<---	hospedagem	0,213	p<0,05
satisfação	<---	restauração	0,063	p=0,395
satisfação	<---	transportes	0,053	p=0,524
satisfação	<---	preços	0,173	p<0,05
satisfação	<---	segurança	0,131	p<0,05
lealdade	<---	satisfação	0,847	p<0,001
lealdade	<---	preços	-0,007	p=0,942

As catering and transport did not present significant impacts, they should be excluded from the model. The new model obtained is shown in Figure 5.4.7.

Figure 5.4.7 – **Refined Structural Model with the relationship between the factors of the Quality, Satisfaction and Loyalty**

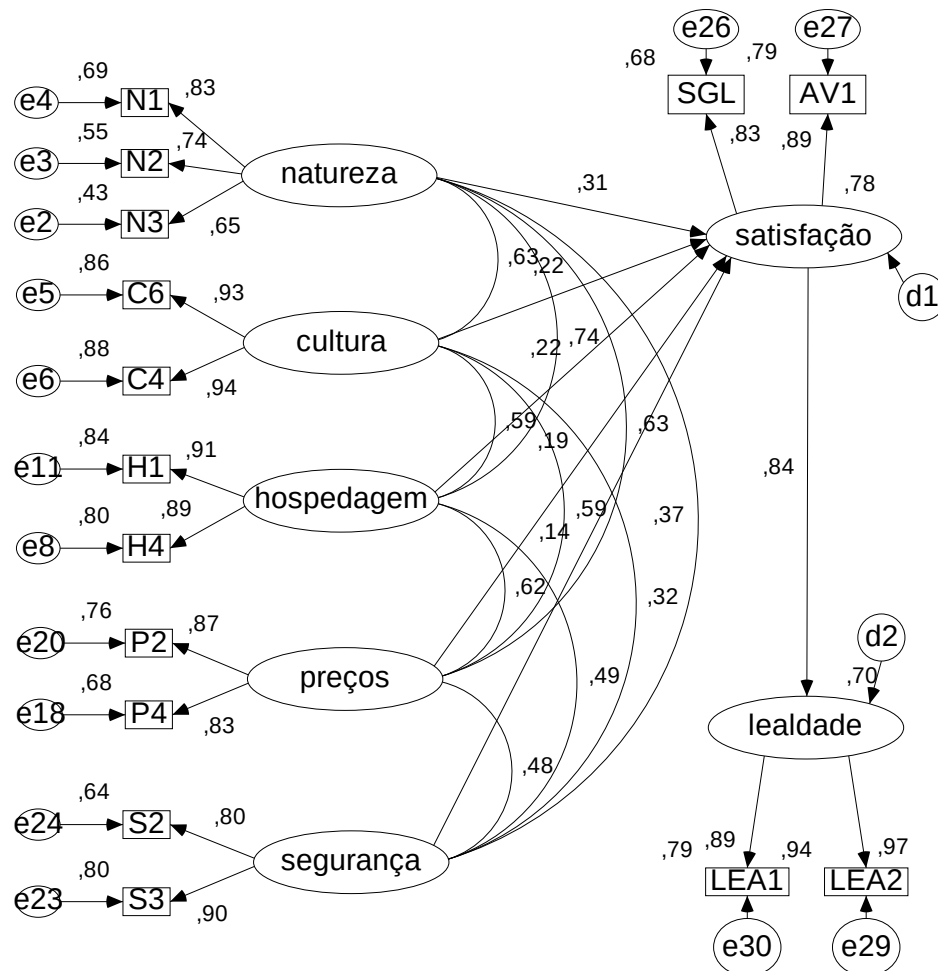


Table 5.4.12 – **Adjustment and Parsimony Index for the Final ISLT structural model**

Adjustment Index	Reference Value (Good fit)	Refined Structural
X ² /DF	≤2	1,53
GFI	0,9-0,95	0,92
AGFI	0,9-0,95	0,87
RMR	≤0.5	0,16
RMSEA	≤0.05	0,50
CFI	≥0.9	0,98
NFI	≥0.9	0,94
TLI	≥0.9	0,97
PR	≥0.9	0,72
PNFI	≥0.9	0,66

From the analysis of Table 5.4.12 it can be seen that the final model is well adjusted.

It is possible to verify that the attributes with the greatest impact on Tourist Satisfaction in Salvador are Nature/Landscape, followed by Accommodation services. In Table 5.4.13 it is possible to observe the also high impact of Nature on Loyalty.

Table 5.4.12 – **ISLT results**

Trajetórias			Coeficientes de Impacto (β ou γ)	Significância
satisfação	<---	natureza	0,31	p<0,01
satisfação	<---	cultura	0,219	p<0,01
satisfação	<---	hospedagem	0,222	p<0,05
satisfação	<---	preços	0,193	p<0,05
satisfação	<---	segurança	0,14	p<0,05
lealdade	<---	satisfação	0,835	p<0,001

Table 5.4.13 – **Total Effect of Quality Factors on Loyalty**

Trajectórias			Efeito Total ($\beta \times \gamma$)
lealdade	<---	segurança	0,117
lealdade	<---	preços	0,161
lealdade	<---	hospedagem	0,185
lealdade	<---	cultura	0,183
lealdade	<---	natureza	0,259

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

This chapter summarizes the dissertation, through a summary of the bibliography and the methodology adopted to create the index and a critical analysis of the results obtained. The main limitations and future recommendations for the development of the instrument are also highlighted.

6.1 – Conclusions

The tourism sector in recent decades has aroused a lot of interest as well as developed a lot of research in it. However, the implementation and development of strategies and programs to improve tourist satisfaction and loyalty is not an easy task.

The complexity of this sector, characterised by the variety of agents and variables involved in it, makes it difficult to understand. Organisations in the sector continue to be confronted by inconsistent information and a variety of models that cannot meet the particularities of the product in question.

By measuring the need to evaluate tourism satisfaction and loyalty, it is intended, first, to identify the problems of the sector as well as to master the variables

involved. Secondly, to monitor the phenomenon in order to assess the impact of strategic decisions and improvement programs to increase the competitiveness of the different levels of tourism products.

Through the measure of tourist satisfaction and loyalty, it is possible to quantify the attributes, or objects of appreciation of tourists, minimizing the subjective components, in order to maximize the levels of satisfaction with the various services that make up the tourist experience.

The tourist must be seen as the protagonist in the whole process. Understanding which attributes of the tourist product most satisfies you is a *sine qua non* condition for the enhancement and development of the region's tourism industry.

The construction of indicators to evaluate tourist satisfaction and loyalty should not be considered a static issue and, as such, definitively closed.

As a global analysis, it is considered that this research process constituted a valuable means for discussion, and served to identify, consolidate and suggest lines of research and open paths for the deepening of this theme.

The model proposed for the ISLT proved to be valid for the sector. The hypotheses presented in Table 6.1 were supported by data analysis.

Table 6.1 – **Hypothesis Test**

Trajectórias			Resultado
satisfação	<---	natureza	Apoiada
satisfação	<---	cultura	Apoiada
satisfação	<---	hospedagem	Apoiada
satisfação	<---	preços	Apoiada
satisfação	<---	segurança	Apoiada
lealdade	<---	satisfação	Apoiada

Using the formula proposed in equation 4.3.4 the Tourist Satisfaction Index and with the results of the scores obtained through the confirmatory analysis of the Structural Model, the city of Salvador reached the coefficient of 69.77%.

The ISLT model, evaluated in the tourist destination Salvador, Bahia – Brazil, is based on the logic of chaining and change built around the effort of cooperation and active participation of all stakeholders in the tourism sector. In this context, it would depend on the synergies arising from the implementation of the project to be prepared for the improvement of tourist satisfaction and loyalty.

Improving tourist satisfaction and loyalty is a challenge and a commitment to progress and development. In this sense, the ISLT used as a consequence of the pooling of efforts and integration of synergies represents an important tool to enhance the quality of the product offered in this sector.

6.2 – Study limitations

Among the main limitations of this study, those related to data collection stand out.

The survey was carried out in July 2008, the peak of the winter season in Brazil, and corresponds to the month of the year when there are fewer tourists in the city of Salvador. The weather conditions are not the most favorable and for this

reason opinions may have been biased in some cases. Thus, it is recommended that this research is also done at different times of the year.

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