CRIAÇÃO DO SENSO DE LUGAR E SEUS IMPACTOS NA PERCEPÇÃO DOS PASSAGEIROS A UM AFROPORTO BRASILFIRO

Gabriela Oliveira de Souza 1

Gustavo Oliveira de Souza²

Giovanna Miceli Ronzani Borille 3

Michele Carvalho Galvão da Silva Pinto

Bandeira 4

Lenice Mirian Da Silva⁵

Cláudio Jorge Pinto Alves 6

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Resumo

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O planejamento padronizado dos terminais aeroportuários, ao longo dos anos, fez com que os aeroportos se tornassem uma construção genérica, portanto, um aeroporto acaba não se diferenciando do outro. O Senso de Lugar é um framework de

Architect and Urbanist graduated from UNIVAP. Master student at ITA in Aeronautical Infrastructure.
 E-mail: gabriela.oliveira.souza@outlook.com

^{2.} Bachelor of Science and Tech from UNIFESP, and Computer Engineering undergraduate student at. E-mail: qustavo.oliveira.souza@outlook.com

Architect graduated from UFSC, master and doctor from ITA. Professor of the civil engineering department at ITA. E-mail: ronzani@ita.br

^{4.} Mechanical engineer from IFMA. Master and Doctor from ITA in Air Transport and Airports. PhD student at ITA. E-mail: michelle_galvao@yahoo.com.br

^{5.} Civil engineer from UNIVAP. Master in Aeronautical Infrastructure from ITA. Doctoral student in Air Transport and Airports at ITA. E-mail: le.mirian2016@gmail.com

^{6.} Aeronautical Infrastructure Engineer from ITA. Master in Civil Engineering from USP, Doctor of aeronautical and mechanical engineering from ITA. Professor of the civil engineering department at ITA. E-mail: claudioj@ita.br

expressão da cultura local, que, ao ser utilizado em aeroportos, conecta o passageiro com o local em que o aeroporto está inserido, tornando-o um lugar único.

Este trabalho tem como objetivo investigar o uso do branding aeroportuário como uma ferramenta para melhorar a experiência do passageiro, e promover o Senso de Lugar. A hipótese dessa pesquisa é "o Senso de Lugar pode melhorar a percepção dos passageiros em relação à qualidade do aeroporto".

Além da revisão da literatura, foi realizado um estudo de caso para identificar as estratégias utilizadas pelo Aeroporto Internacional de Belo Horizonte/Brasil para criar o senso de lugar. Um teste de hipótese também foi conduzido para analisar a diferença das médias dos índices de satisfação dos passageiros, entre os períodos anterior e posterior à reforma, a fim de identificar, como as estratégias afetaram a satisfação dos passageiros. Os resultados sugerem que os elementos de senso de lugar podem elevar a experiência dos passageiros em aeroportos, melhorando a avaliação do aeroporto.

Palavras-chave: Palavras-chave: Terminal Aeroportuário. Senso de lugar. Aeroporto Internacional de Belo Horizonte.

CREATING THE SENSE OF PLACE AND ITS IMPACT ON PASSENGER PERCEPTION AT A BRAZILIAN AIRPORTL

Abstract

The standardized planning of airport terminals, over the years, has made airports become a generic building, so one airport ends up not being different from another. The Sense of Place is a framework to express the local culture, which, when used in airports, connects passengers to the place where the airport is inserted, making it a unique place. This study aims to investigate the use of airport branding as a tool to improve the passenger experience and promote the Sense of Place. This research hypothesis is "the Sense of Place creation can improve the perception of the passenger about the quality of the airport". In addition to the literature review, a case study was conducted with the means to identify the strategies used by the Belo Horizonte International Airport/Brazil to create a sense of place. A hypothesis test was also conducted to analyze the difference in means of passenger satisfaction rates, throughout the periods before and after the implementation, to verify how those strategies could have affected passenger satisfaction. The results suggest that the sense of place elements may indeed enhance the passenger experience in airports, improving the airport evaluation

Keywords: Airport Terminal. Sense of Place. Belo Horizonte International Airport.

CREACIÓN DEL SENTIDO DEL LUGAR Y SUS IMPACTOS EN LA PERCEPCIÓN DE LOS PASAJEROS EN UN AERO-PUERTO BRASILEÑO

Resumen

La planificación estandarizada de las terminales aeroportuarias, a lo largo de los años, ha hecho que los aeropuertos se conviertan en una construcción genérica, por lo tanto, un aeropuerto termina no siendo diferente del otro. Senso de Lugar es un marco para la expresión de la cultura local, que, cuando se usa en aeropuertos, conecta a los pasajeros con la ubicación en la que se inserta el aeropuerto, convirtiéndolo en un lugar único. Este trabajo tiene como objetivo investigar el uso de la marca del aeropuerto como una herramienta para mejorar la experiencia del pasajero y promover el sentido del lugar. La hipótesis de esta investigación es "el sentido del lugar puede mejorar la percepción de los pasajeros en relación con la calidad del aeropuerto". Además de la revisión de la literatura, se realizó un estudio de caso para identificar las estrategias utilizadas por el Aeropuerto Internacional de Belo Horizonte / Brasil para crear un sentido de lugar. También se realizó una prueba de hipótesis para analizar la diferencia en los índices medios de satisfacción del pasajero, entre los períodos anteriores y posteriores a la reforma, con el fin de identificar cómo las estrategias afectaron la satisfacción del pasajero. Los resultados sugieren que los elementos del sentido del lugar pueden elevar la experiencia de los pasajeros en los aeropuertos, mejorando la evaluación del aeropuerto.

Palabras clave: Terminal de Aeropuerto. Sentido de Lugar. Aeropuerto Internacional de Belo Horizonte.

Introduction

The airport terminal is where the passenger handles the majority formalities related to his journey, hence it is the most important element of the airport in their perception.

The quality of service and the comfort provided to the client are some of the criteria used by passengers for evaluating the air companies (SKORUPSKI, 2009). As passengers are the major users of an airport, their potential evaluations and perceptions must be taken in count in the definition of the airport location and design (NGHIÊM-PHÚ & SUTER, 2018). According to Martín-Cejas (2005), airport infrastructures are the first and last contact for tourists at their destination and introduce the overall place image.

According to Farchaus (2012) over the past three decades, airports have been reduced to uninspired, highly sterile, and locally irrelevant people processing machines, leading the air traveler to a disenchanted with the idea of flying. In her thesis, she argues that incorporating a sense of place and interaction through the architecture and design considerations of construction can foster the new positive experience of the passenger and staff. The creation of a sense of place is a strategy to enhance the passenger experience.

Castro (2015) defines Tourists Airport Branding as a set of disciplined actions aimed at building airport brand, awareness, and identity through the inclusion of local elements, providing Sense of Place, enhancing the passengers' experience, and promoting a tourist destination.

According to the Brazilian Civil Aviation National Agency, ANAC (2019), air transport is the main form of transport used by Brazilians on interstate travel. With the objective to meet the growing demand for air transport and the demands associated with the 2014 FIFA World Cup and the 2016 Summer Olympics, some Brazilian airports went through a program of concessions, aiming the expansion, development, and improvement of air transport services. (ANAC, 2018).

The Belo Horizonte International Airport was included in the Brazilian program of concessions, and in 2013 it was granted. Since 2015, the BH Airport concessionaire handles the integral responsibility of the operation and management of the airport infrastructure.

According to the BH Airport website, their objective is to guarantee the best airport experience in Brazil to their passengers through the excellence of the services provided, offering more comfort, safety, besides several facilities, valuing the culture of Minas Gerais.

This study aims to identify, describe and analyze the in-

fluence of branding elements used to create the sense of place in the Belo Horizonte International Airport in the evolution of the quality of services perceived by passengers that are related to those elements. The specific aims are: (a) to present, as a case study, the Belo Horizonte International Airport (b) to analyze the reports of the Civil Aviation Secretariat.

Literature review

To understand the meaning of Sense of Place and its usage within airports, it is necessary to review the national and international literature on the main topics covered in this article. This chapter describes the primary topics about the definitions of Sense of Place and the issues surrounding the process of creating it in airports.

Sense of place meaning and creation

The building blocks to define a sense of place live on the idea that places consist of a space that experienced personal interaction and aggregated value with it (Tuan 1977). Agnew (1987) states that place can be considered on 'location', which refers to fixed coordinates on Earth, and 'locale', which relates to material settings such as the built/natural environment within which social relations are conducted.

However, Agnew uses the term 'sense of place' to refer

to the subjective and emotional attachments people have to the place. Kent (1993) believes that a knowledge of the place is grounded in those aspects of the environment which we appreciate through the senses and through movement: color, texture, slope, quality of light, the feel of the wind, the sounds, and scents carried by that wind.

Amsden *et al.* (2010) assert that connections to place can be forged through cumulative, direct experiences with features of life such as recreation, home life, or work. They can also rely on symbols of what a particular place represents. In this article, the sense of place will be considered as the feeling of being in a unique and specific place, created through physical and sentimental resources, which reflects the culture and landscape of this place.

Branding strategy as a tool to improve the user perception and create the sense of place

Traditional airport design practice was based on standardized formulas that calculate passenger and freight flow to improve transport efficiency. Airport terminals longed for being simply functional. Therefore, passengers used to consider airports as a stressful place for a very long time. Part of this is because most airports used to envision passengers as customers of Airlines, who had them as their customers. However, this reality is shifting as airports are changing from the equipment of boarding and landing, to

a commercial entity. (BOGICEVIC, 2014; CASTRO, 2015).

As commercial enterprises, airports' objective is to make a profit, which can be increased by improving operational efficiency and passenger satisfaction. (VOKÁM et al., 2017). According to Paternoster (2007), customer satisfaction with the airport experience can be significantly enhanced through a strategic and holistic approach to customer service and airport branding.

For Mikulic *et al.* (2008), service improvement can only be effective and efficient if it is based on an appropriate selection of attributes to be improved. In their study, they suggest that for airport services improvement the high priority attributes to be assigned are "comfort level of the building", "offer of flights", "offer of restaurants", and "shopping possibilities".

Airport managers are using airport branding elements to create a distinctive, memorable, and positive airport experience. These branding elements include: 1) the choice of food and beverage facilities; 2) retail shopping; 3) pricing policies; 4) artwork; 5) the architectural design; 6) the choice of services and amenities; 7) airport service staff, and 8) the airport logo and slogan. (TSE, 2009).

Paternoster (2007) suggests that Airports can improve customer experience by developing their own exclusive characteristics.

According to Castro (2015), airport branding that highlights local values can provide a great experience for tourists.

2.3 Sense of Place in airports

The Sense of Place occurs when an airport and its concessionaires enhance the passenger experience with a series of emotions, products, and designs that represent the spirit of their location. (HOLLAND, 2016)

At the SITA Air Transport Summit in Brussels, Robert O'Meara, Director, Media, and Communications for Airports Council International (ACI) explained that one of the approaches to create the sense of place is using the culture resorting on architecture, fixtures, objects, and experiences which define the region (GARCIA, 2015).

To create a sense of place, experiences and amenities must be planned for the traveler, revolving around shopping/retail, nature concepts, cultural exhibitions, education, entertainment, dining, business and personal services, and health and well-being amenities using elements like temperature, touch, light, sound, smell, cleanliness, safety, technology, architecture, interior design, culture, and access (FITZPATRICK, 2015).

Place-themed installations appear in numerous contemporary international airports since it is believed that it can evoke a sense of place and induce the passenger to consume. Those installations include signifiers that point to the region's cultural groups, built environment, and physical landscape. He points that different tools are used to create a sense of place in airports, such as the architectural design (structure, footprints, local traditional architectural form, interior design), artworks, cultural artifacts, cultural symbols, natural and pseudo-natural settings even retail shops selling local goods. (HUBREGTSE, 2020)

Methodology

The methodology used in this research has two approaches: 1) the case study, and 2) the hypothesis test. The goal is to understand, in a more detailed way, how branding strategies have been used as a tool to promote the sense of place at Belo Horizonte International Airport. The Data was collected through the analysis of documents available on the airport's website and social media. The criteria used to categorize and identify those elements were based on the TSE (2009) research in which is defined by the eight branding elements. For this research, the elements analyzed were chosen according to the data available on the airport website, which are 1) the choice of food and beverage facilities; 2) retail shopping; 3) artwork; 4) the architectural design; 5) the choice of services and amenities.

To identify the branding elements' influence on the Evolution of the quality of services perceived by passengers, data was collected from the Permanent Passenger Satisfaction Survey made by the Civil Aviation Secretariat (SAC). The analyzed data covers the period from before (2013-2014) and after (2017-2020) the terminal renovation.

In our study, we consider only the categories (1) quantity and quality of food and beverage facilities, (2) quantity and quality of retail shopping, and (3) General satisfaction since those are the categories directly related to the aspects analyzed as a tool to create the sense of place.

3.1 Sense of place creation in airport: the case of Belo Horizonte International Airport

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The Belo Horizonte International Airport is located in the city of Confins in the state of Minas Gerais, it was inaugurated in 1984, with the objective to support the growing passenger demand in the Belo Horizonte metropolitan region. In the early 2000s, the Airport replaced Pampulha Airport as civil aviation destination airport, becoming the primary airport in the region. It was structured initially to support the capacity of 5 million passengers.

The Belo Horizonte International Airport is the principal airport in the state of Minas Gerais, and the gateway of the city of Belo Horizonte. According to the Civil Aviation

Secretariat, currently, Belo Horizonte International Airport is one of the 5 principal Brazilian airports in the numbers of passengers handled. In 2013, aiming the airport expansion and structuring, the expansion maintenance and the exploitation of the airport infrastructure were the objects of privatization auction. Since 2015, the BH Airport concessionaire handles the integral responsibility of the operation and management of the airport infrastructure.

In 2015 the airport expansions began, the BH Airport made several improvements to the airport infrastructure increasing the mix of stores and services. In December of 2016, the BH Airport inaugurated the new Passenger Terminal with the capacity to process 22 million passengers per year, raising the quality of service to passengers.

The following are the analyzes about the branding elements identified at Belo Horizonte International Airport, used to create a sense of place. The criteria used to categorize and identify those elements were based on the TSE (2009) research in which he defines the eight branding elements. For this research the elements analyzed were chosen according to the data available on the airport website, which could be identified as:-

- 1) the choice of food and beverage facilities
- 2) retail shopping

- 3) artwork
- 4) the architectural design
- 5) the choice of services and amenities.

Food and Beverage

Belo Horizonte International Airport currently has 33 options for Food and Beverage establishments, among which 11 stores have been identified as having connotative characteristics related to the culture and culinary of Minas Gerais, being identified by the following characteristics:

- 1) By the enterprise name which alludes to the city of Belo Horizonte or the state of Minas Gerais.
- 2) By the enterprise architecture and design that brings local elements of culture and architecture.
- 3) By the product offered, which include local typical foods or local brands.

The Figures 1 and 2, exemplify the food and beverage stores, in the Belo Horizonte International Airport, which have the characteristics above.



Figura 1 | Cozi Minas, a restaurant located in the international departure lounge, with design, products and name related to the local culture.

Source: Bh Airport Website.



Figura 2 | L'orizzonte Pizzaria Artesanal, a handmade pizzeria located next to the check--in 1, with design, products and name related to the local culture. Source: BH Airport social media Instagram.

Retail Outlets

Belo Horizonte International Airport currently has 41 options for retail outlets, among which 10 stores have been identified as having connotative characteristics related to the culture of Minas Gerais, being identified by the following characteristics:

- (1) By the enterprise name which alludes to the city of Belo Horizonte or the state of Minas Gerais;
- (2) By the enterprise architecture and design that brings local elements of culture and architecture;
- (3) By the product offered, which includes local brands or souvenirs related to the state of Minas Gerais.

The Figure 3, exemplify the retail outlets, in the Belo Horizonte International Airport, which have the characteristics above.



Figura 3 | Leve Minas Empório, a store at the domestic departure lounge with design, products and name related to the local culture.

Source: BhAirport Website.

Architectural Design

The Belo Horizonte International Airport, during the expansion, developed the Praça Mineira represented in Figure 4. It's a 3,000sq m zone dedicated to local and regional concepts. The visual identity of the Praça Mineira aimed to reflect the culture and heritage of Minas Gerais, which is known for its architecture and colonial art in historical cities.



Figura 4 | Praça Mineira, a commercial zone dedicated to the regional concepts, next to the main access.

Source: BhAirport Website.

Artworks

Throughout the Airport Terminal, it is possible to identify some sculptures or paintings by local artists or with a theme related to Minas Gerais culture, strengthening the creation of Sense of Place in the Confins Airport.

The Figure 5 is one example of local art exposed at the Belo Horizonte International Airport.



Figura 5 | Local artwork "Voar" by the local artist Fernando Pacheco.

Source: BhAirport social media Instagram (2019)

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Services and Entertainment

The principal entertainment services available on the Belo Horizonte International Airport are the Teams Lounge represented in Figure 06, and the social media interaction.

The Team's Lounge is part of a partnership between the concessionaire BH Airport and the local soccer clubs América Mineiro, Atlético Mineiro and Cruzeiro. It has exhibitions of historical pictures, team jerseys, and curiosities about the teams. The soccer teams represent a strong aspect of the local culture.



Figura 6 | Lounge dos Times domestic departure lounge Source: BhAirport social media Instagram (2020)

The social media have been largely used by the BhAirport concessionaire, with the objective to reinforce the sense of place and establish the image of the airport. On Instagram, the posts address issues such as communication-related to improvements in the airport, tourists' activity tips in the state of Minas Gerais, and local cuisine recipes, as illustrated in Figure 7.



Figura 7 | Posts of BhAirport on social media Instagram – on the left, a local recipe, on the right, a tourist guide to the main historical towns of Minas Gerais.

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The research is done through direct observation, and face-to-face interviews conducted in the departure lounges. The interviews are conducted through the application of a questionnaire about various indicators related to the infrastructure, services, and processes to which the passenger has been submitted. The evaluation of the indicators is done by assigning a score on a 5-point Likert scale, being them (1 = very bad / 2 = poor / 3 = Regular / 4 = good / 5 = very good).

Data collection returned samples of consumer satisfaction quarterly indexes about quantity and quality of trade, quantity, and quality of restaurants and overall satisfaction. To evaluate the evolution of the impact of the terminal renovation on these rates, it was possible to apply the mean difference in populations with unknown and different variances t-Student hypothesis test using the collected data from the periods of 2013 and 2014, which is before the implementation, and the period of 2017 to 2020, which is after the implementation, as illustrated in Table 1 and 2.

Passenger evaluation index of Belo Horizonte International Airport - SAC							
Period		Quantity and	Quantity and quality	Overall			
		quality of trade of restaurants		satisfaction			
Before the implemetantion	1° trimester 2013	3,3	3,1	3,5			
	2° trimester 2013	3,46	3,32	3,9			
	3° trimester 2013	3,3	3,16	3,73			
	4° trimester 2013	3,13	2,97	3,58			
	1° trimestre 2014	3,1	3,11	3,47			
불특	2° trimester 2014	3,49	3,38	3,31			
<u> </u>	3° trimester 2014	3,4	3,33	3,71			
	4° trimester 2014	3,32	3,36	3,81			
	Mean	3,31	3,22	3,63			

Table 1 Passenger evaluation index of Belo Horizonte International Airport before the implementation.

Source: Elaborated by the Authors using data from SAC.

Passenger evaluation ind		Quantity and	Overall		
Period		,	Quantity and quality		
		quality of trade	of restaurants	satisfactio	
After the implemetantion	1° trimester 2017	3,73	3,85	4,42	
	2° trimestre 2017	3,99	4,1	4,47	
	3° trimester 2017	4,05	4,05	4,49	
	4° trimester 2017	4,03	3,96	4,48	
	1° trimestre 2018	3,94	4,03	4,62	
	2° trimester 2018	4,02	3,98	4,61	
	3° trimester 2018	4,13	4,11	4,61	
	4° trimester 2018	4,08	4,2	4,61	
	1° trimester 2019	4,09	4,2	4,65	
	2° trimester 2019	4,01	4,13	4,6	
	3° trimester 2019	4, 18	4,18	4,55	
	4° trimester 2019	4,27	4,14	4,57	
	1° tri mester 2020	4,31	4,27	4,45	
	Mean	4,06	4,09	4,55	

Table 2 Passenger evaluation of Belo Horizonte International Airport after the implementation.

Source: Elaborated by the Authors using data from SAC.

To compare means with the proposed hypothesis test, it is needed to follow the step-by-step below (MORETTIN, 2010):

1. Formulate two hypotheses, the first being the null hypothesis H0 and the second being the alternative hypothesis H1. As we want to know if the terminal renovation has increased the average satisfaction rates, the following hypotheses are formulated:

$$\left\{ \begin{array}{ll} H_0\colon \mu_{after} \; - \; \mu_{before} \; = \; 0 \; \rightarrow \; \mu_{after} \; = \; \mu_{before} \\ H_1\colon \mu_{after} \; - \; \mu_{before} \; > \; 0 \end{array} \right.$$

2. Set a significance level a , which measures the uncertainty of the test. For this evaluation, it was adopted:

$$\alpha = 5\% = 0.05$$

3. Estimate the t-Student distribution variable:

$$\begin{split} t_{calc} &= \frac{\bar{x} - \mu}{s_{\bar{x}}} = \frac{\left(\bar{x}_{after} - \bar{x}_{before}\right) - \left(\mu_{after} - \mu_{before}\right)_{H_0}}{s_{\bar{x}}} = \frac{\bar{x}_{after} - \bar{x}_{before}}{s_{\bar{x}}} \\ s_{\bar{x}_d} &= \sqrt{\frac{s_{after}^2 + s_{before}^2}{n_{after}}} \\ s_{\bar{x}_d}^2 &= \frac{\sum_{i=1}^{n_{period}} \left(x_{period} - \bar{x}_{period}\right)^2}{n_{period} - 1} \end{split}$$

Where t is the t-Student distribution variable and s is the estimate of the standard deviation

4. Refer the critical value within the t-Student table, adopting the previously fixed significance level, in addition to the following degree of freedom:

$$\phi = \begin{cases} \frac{(\sum_{after}^{2} + \sum_{before}^{2})^{2}}{n_{after}} + \frac{\sum_{before}^{2})^{2}}{n_{before}} - \frac{(\sum_{after}^{2})^{2}}{n_{before}} - \frac{(\sum_{before}^{2})^{2}}{n_{before}} + 1} \end{cases}$$

5. Compare the calculated values with the critical value; this comparison will lead to the following decision:

$$\begin{cases} If \ t_{calc} > t_{\phi,\alpha} : Reject-if \ H_0, adopt-if \ H_1 \\ Else: \ H_0 \ can'tbe \ rejected \end{cases}$$

Results

As presented in the case study, many strategies have been implemented at the Belo Horizonte International Airport, to combine the local culture to the airport's identity. It is clear that, in the expansion project of the Belo Horizonte International Airport, branding elements were used to create the Sense of Place, exemplified by the Figures 1 to 7.

The analysis of the passenger's evaluation was made through the hypothesis test. For each satisfaction index, the hypothesis test was performed, evaluating rates before and after terminal renovation. The results of the hypothesis test rejected the null hypothesis for all indexes compared, as illustrated in Table 3. Thus, it can be concluded that there was a significant improvement in the means of both indexes.

The means improvement in the passenger evaluation, according to the score indicator used by the National Secretariat of Civil Aviation, suggests that in all indexes compared, the passenger satisfaction changed from regular to good.

Since those indexes are directly related to the branding elements used in the airport intervention the hypothesis "the Sense of Place creation can improve the perception of the passenger about the quality of the airport" is confirmed. However, it is necessary to take into account that other interventions were made at the airport, in addition to the implementation of the branding elements.

Results of the hypothesis test								
Index	Variance Before Retirement	Variance After Reform	of	Standard Deviation of The Difference of Means	T cal culated	Critical Value	Null Hypothes is	
SBCF: quality and quantity of trade	0,0199714	0,0219	9	0,064661	11,4443	1,8331	Rejected	
SBCF: Quantity and quality of restaurants	0,0388286	0,013758333	8	0,076889	6,047686	1,8595	Rejected	
SBCF: General Satisfaction	0,0199714	0,006366667	8	0,054646	23,05755	1,8595	Rejected	

Table 3: Results of the application of the hypothesis test for the increase of averages of satisfaction indexes. Both indexes increased their means after the terminal renovation.

Conclusion

This article discusses how branding elements can promote the sense of place in airports, enhance the passenger experience, and lead to service improvement, therefore contributing to the airport profit. The research was focused on the Belo Horizonte International Airport, identifying the elements, and relating them to the increase in customer satisfaction rates.

A hypothesis test was applied to identify the difference in means of passenger satisfaction indices between the

periods before and after the implementation of elements creating a sense of space at the Airport. The results showed that there was a significant increase in the average of the evaluation between the periods. One explanation to this is that the branding elements used to promote the sense of place at the terminal renovation process contributed, directly or indirectly, to the service quality enhancement.

This work may be continued with field search to make a deep analysis of how each element of the airport contributes to the sense of being within the Minas Gerais state, as well as the local culture and cuisine. The field search can also contribute to identifying if all the branding elements, which couldn't be evaluated by the airport website and social media information, including the pricing policies, the airport staff, and the airport logo and slogan, are used by the Belo Horizonte International Airport.

The article may benefit the airport industry because it clearly explains which components and elements might be used on airport architecture and design to provide a sense of place in Brazilian airports, which is useful information to the current context of privatization in the country.

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