

Innovative travel experiences: discovering smart tourism in Uruguay's Punta del Este

Experiências inovadoras de viagem: descobrindo o turismo inteligente em Punta del Este, no Uruguai

Experiencias de viaje innovadoras: descubriendo el turismo inteligente en Punta del Este, Uruguay

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ABSTRACT

This article aims to measure the concept of smart tourist destinations in Punta del Este and propose a conceptual research model to analyze the integration of smart technologies in the tourism context of the region. The research methodology is quantitative, and descriptive in 5 dimensions: a) information; b) accessibility; c) interactivity; d) personalization, and lastly e) security. The type of sampling is convenience. The data collection period was from March to December 2023, 774 cases were collected and answered by Brazilian tourists through a survey with 20 variables and a 5-point Likert scale. The evaluation for each dimension was on average: information with 3.5, accessibility with 3.27, interactivity with 3.18, personalization with 3.14, and security with 3.5. In tourism, smart technologies have caused significant changes, revolutionizing businesses, products, and tourism experiences. Information and Communication Technologies (ICTs) play a crucial role in the development of smart tourism by providing a convenient, user-friendly, and personalized travel experience. The DTI Punta Del Este Framework is an academic approach that aims to improve the visitor experience by

offering accurate and personalized information, optimizing business operations, and attracting new visitors, increasing the competitiveness of the sector.

Keywords: tourism, smart tourist destination, Punta del Este, framework.

RESUMO

Este artigo tem como objetivo medir o conceito de destinos turísticos inteligentes em Punta del Este e propor um modelo conceitual de pesquisa para analisar a integração de tecnologias inteligentes no contexto turístico da região. A metodologia de pesquisa é quantitativa e descritiva em cinco dimensões: a) informação; b) acessibilidade; c) interatividade; d) personalização e, por fim, e) segurança. O tipo de amostragem é por conveniência. O período de coleta de dados foi de março a dezembro de 2023, 774 casos foram coletados e respondidos por turistas brasileiros por meio de uma pesquisa com 20 variáveis e uma escala Likert de 5 pontos. A avaliação para cada dimensão foi em média: informação com 3,5, acessibilidade com 3,27, interatividade com 3,18, personalização com 3,14 e segurança com 3,5. No turismo, as tecnologias inteligentes causaram mudanças significativas, revolucionando negócios, produtos e experiências turísticas. As Tecnologias de Informação e Comunicação (TICs) desempenham um papel crucial no desenvolvimento do turismo inteligente, proporcionando uma experiência de viagem conveniente, fácil de usar e personalizada. O DTI Punta Del Este Framework é uma abordagem acadêmica que visa a melhorar a experiência do visitante oferecendo informações precisas e personalizadas, otimizando as operações comerciais e atraindo novos visitantes, aumentando a competitividade do setor.

Palavras-chave: turismo, destino turístico inteligente, Punta del Este, estrutura.

RESUMEN

Este artículo tiene como objetivo dimensionar el concepto de destinos turísticos inteligentes en Punta del Este y proponer un modelo conceptual de investigación para analizar la integración de las tecnologías inteligentes en el contexto turístico de la región. La metodología de investigación es cuantitativa, y descriptiva en 5 dimensiones: a) información; b) accesibilidad; c) interactividad; d) personalización, y por último e) seguridad. El tipo de muestreo es de conveniencia. El período de recolección de datos fue de marzo a diciembre de 2023, se recogieron 774 casos respondidos por turistas brasileños a través de una encuesta con 20 variables y una escala Likert de 5 puntos. La evaluación para cada dimensión fue en promedio: información con 3,5, accesibilidad con 3,27, interactividad con 3,18, personalización con 3,14 y seguridad con 3,5. En el turismo, las tecnologías inteligentes han provocado cambios significativos, revolucionando los negocios, los productos y las experiencias turísticas. Las Tecnologías de la Información y la Comunicación (TIC) desempeñan un papel crucial en el desarrollo del turismo inteligente al proporcionar una experiencia de viaje cómoda, fácil de usar y personalizada. El Marco DTI Punta Del Este es un enfoque académico que pretende mejorar la experiencia del visitante ofreciendo información precisa y personalizada, optimizando las operaciones comerciales y atrayendo a nuevos visitantes, aumentando la competitividad del sector.

Palabras clave: turismo, destino turístico inteligente, Punta del Este, marco.

1 INTRODUCTION

The advancement of innovation and digital technology has driven societies and economies to adopt a more creative global approach and align their operations. According to Hamid et al., (2021), digital transformation trends are now widely observed in various sectors such as healthcare, banking, media, and entertainment, transforming the traditional economy into a digital economy. The digital transformation of the economy relies heavily on advanced technologies (Camilleri, 2024).

However, the industry that seems to have been most impacted by this transformation is the hospitality and tourism industry. Tourism was one of the first industries to adopt Information and Communication Technology (ICT) and is considered a pioneer in the use of digital technologies and platforms (Bulchand-Gidumal, 2022).

The incorporation of smart technologies into tourism strategies contributes significantly to the effective achievement of business objectives, allowing for a better understanding of customer choices and improved service (Meryem 2022). With this trend, many tourism-related businesses adopt various smart technologies to promote their destinations. For the development of smart destinations, governments, and destination marketing organizations often establish an evaluation system aligned with regional policies based on smart tourism (Buhalis and Amaranggana, 2013).

The ultimate goal of smart tourism is to make travel more convenient and planned for travelers (Romao and Neuts, 2017). Most travelers utilize smart technologies to organize and enrich their trips, including travel websites, travel apps, social media, and virtual reality for tourists, as well as location queries, local restaurant reviews, or mobile payments via smartphones during their trips (Balakrishnan et al., 2023). Studies on smart technologies in tourism have found that these developed technologies increase unforgettable tourism experiences and happiness for tourists (Porto, Espinola and Carella, 2023). However, the lessons cannot be generalized, as different countries and tourists will

have different experiences and familiarity with smart tourism technologies in South America.

Punta del Este, located in Uruguay, is a tourist destination known for its beautiful beaches and lively parties (Punta del Este Bureau, 2024). The city is situated 134 km from the capital Montevideo and is considered the most famous seaside resort in the country. In terms of demographics, Punta del Este is part of the department of Maldonado, which is one of the most visited departments by Brazilians due to its tourist activities (Tripadvisor, 2024). Uruguay has a population that hasn't grown much beyond three million people for three decades. This can be attributed to country-specific historical and demographic factors (Ine, 2023). Given the text exposed above, the research problem is: What is the impact of the implementation of a smart tourist destination in the city of Punta del Este, Uruguay on the tourist experience?

The objective of the study is to measure the concept of smart tourist destinations in the city of Punta del Este and to propose a conceptual research model to analyze the integration of smart technologies in the tourism context of the region. The study will seek to understand how smart technologies are currently being evaluated in Punta del Este by Brazilian tourists. The article aims to propose a conceptual research model that can serve as a basis for future studies on smart tourism destinations.

2 THEORETICAL FRAMEWORK

2.1 SMART TOURIST DESTINATIONS

A Smart Tourism Destination (DTI) is an innovative concept that uses advanced technologies, and sustainable practices to enhance the tourist experience and destination management. It is characterized by the constant search for innovation, universal accessibility, the promotion of sustainability, effective governance, the promotion and marketing strategy, the use of technology, the stimulation of creativity, and the guarantee of the safety of tourists (Buhalis and Amaranggana, 2013).

According to Hamid et al., (2021), the main characteristics of a DTI are critical to its success. Innovation is one of the key points, as the use of advanced technologies makes

it possible to offer personalized and interactive tourist experiences. Universal accessibility ensures that the destination is accessible to everyone, regardless of their abilities or special needs (Balakrishnan et al., 2023).

One of the widely used models is the one developed by the World Tourism Organization (UNWTO) in partnership with Spain's smart cities network (Romao & Neuts, 2017). This model is based on four main pillars: governance, innovation, technology, and sustainability. It emphasizes the importance of collaboration between the public sector, the private sector, and the local community in decision-making and implementing measures to become a smarter tourism destination (Romao and Neuts, 2017).

Bulchand-Gidumal (2022) another commonly adopted model is SMART Destinations, which is based on five core principles: Sustainability, Measurement, Accessibility, Resilience, and Technology. This model highlights the need for a tourism destination to be sustainable, measure its performance, ensure accessibility for all visitors, be resilient to risks and crises, and use technology to improve the tourist experience (Camilleri, 2024).

Femenia-Serra and Ivars-Baidal (2018) there are regional and local initiatives that also provide frameworks for the implementation of DTIs. For example, the European Union has developed the European Smart Tourism model, which aims to improve the competitiveness of European tourist destinations through innovation and digitalization. This model emphasizes the importance of factors such as stakeholder participation, the quality of digital infrastructure, and the creation of innovative tourism products.

The choice of model and structure for the implementation of a Smart Tourism Destination (DTI) is directly related to the specific characteristics and needs of each destination, taking into account the dimensions: information, accessibility, interactivity, personalization, and security (Meryem 2022). It is critical to ensure that all of these areas are considered during the DTI implementation process. Other relevant aspects, such as governance, innovation, technology, sustainability, stakeholder participation, and infrastructure quality, must be considered to ensure the full functioning and success of the DTI (Camilleri, 2024; Femenia-Serra and Ivars-Baidal, 2018).

The information dimension in smart tourism plays a key role in the experience of tourists. Information is essential for tourism products and services, as it allows tourists to make informed decisions and plan their trips effectively. Smart tourism technologies provide up-to-date, reliable, and accurate information about events, accommodations, and transportation, reducing the time and effort required to find relevant information. The information allows tourists to make rational judgments about destinations and improve their overall experience (Zhang, Sotiriadis and Shen, 2022).

Gomes, Lopes and Ferreira (2024) accessibility refers to the ease with which tourists can access and obtain travel goods. The quality of smart tourism technologies in destinations makes everything easier for tourists, increasing the perceived ease of use of these technologies (Li Y et al., 2017). When smart tourism technologies are widely accessible, tourists tend to explore more information at every stage of their trips, improving their experience and satisfaction (Balakrishnan et al., 2023).

Meryem (2022) Interactivity is an essential attribute of smart tourism technologies. It facilitates real-time communication between tourists and stakeholders involved, allowing tourists to provide feedback, ask questions, and actively interact with technologies. Interactivity enhances the tourist experience by providing a smooth flow of information and allowing for a quick and effective response to tourists' needs and preferences (Gretzel et al., 2015).

Personalization refers to the ability of smart tourism technologies to adapt to the personal needs of tourists (Chimbo Cujano 2024). Through the use of big data and cloud computing, smart tourism technologies can offer personalized recommendations based on tourists' consumption patterns, past preferences, and individual characteristics (Un T et al., 2022). Personalization provides a more relevant and satisfying experience, catering to the specific needs of tourists (Bilgihan and Ricci, 2024).

Zhang, Sotiriadis, and Shen (2022), safety is a critical dimension of smart tourism. Tourists value the protection and security of their personal information when utilizing smart tourism technologies. Trust in information security is essential for tourists to complete transactions and share personal data (Carvalho Pereira and Biz, 2023). Ensuring the security of tourists' personal information is critical to a positive and satisfying experience.

These dimensions, information, accessibility, interactivity, personalization, and security play a categorical role in smart tourism, providing tourists with a more enriching, efficient, and safe experience. By considering these aspects, tourist destinations can improve the quality of services offered and increase tourist satisfaction (Buhalis and Amaranggana, 2013).

2.2 PUNTA DEL ESTE AS DTI

Punta del Este, located in Uruguay, is widely regarded as one of the top tourist destinations in South America. With its stunning beaches, elegant architecture, and vibrant nightlife, the city attracts visitors from all over the world in search of a unique and unforgettable experience. In this text, we will explore the characteristics that make Punta del Este a luxurious tourist spot (Porto, Espinola and Carella, 2023).

According to Instituto Nacional de Estadística (INE) del Uruguay (2023), one of the main attractions of Punta del Este is its paradisiacal beaches. With an extensive coastline bathed by the Atlantic Ocean, the city offers a variety of beaches for all tastes. From calm and tranquil beaches, ideal for relaxing and enjoying the sun, to beaches with waves perfect for water sports, Punta del Este has options for all visitors. The quality of the waters is exceptional, making Punta del Este's beaches ideal for swimming and snorkeling (Ine, 2023).

The city has approximately 10,000 permanent residents, but during the peak season, this number grows to 200,000 due to tourism. In recent decades, there has been a significant increase in population, driven by tourism and international migration. The population is diverse, consisting of Uruguayans, Argentines, Brazilians, and residents of other nationalities (Ine, 2023).

Regarding the age group, the highest concentration is in the 25 to 64 age group. The city also attracts many young adults looking for work and leisure opportunities. During the winter, there is an increase in the elderly population, who seek a mild climate and quality of life (Ine, 2023). As for income level, the average household income in Punta del Este is higher than Uruguay's national average. The city has an upper class with high purchasing power, which drives the luxury market and contributes to the

development of exclusive services and products (Ramón-Cardona and Sánchez-Fernández, 2022). However, social inequality is also evident, with low-income communities located in peripheral areas of the city (Ine, 2023).

Another clear aspect of Punta del Este is its elegant and sophisticated architecture. The city is known for its magnificent beachfront mansions, which reflect the wealth and good taste of its inhabitants. The iconic sculpture "La Mano", located on Playa Brava, is a striking symbol of Punta del Este and attracts the attention of all visitors, the city is also home to several art galleries and museums that display works by renowned local and international artists, further enriching the cultural scene in the region (Tripadvisor, 2024). Figure 1 shows the geographical location of the city and the tourist spot La Mano.

Figure 1 - Geographical location of the city Punta del Este, Uruguay, and the tourist spot La Mano



Source: (adapted tripadvisor, 2024)

Punta del Este is known for its hospitality and high-quality tourist infrastructure, providing visitors with an enjoyable and comfortable stay. Tourists enjoy a wide range of lodging options, from specific beachfront resorts to cozy guesthouses in the city center.

The city offers a variety of tourist services, such as boat trips, bike rentals, and guided excursions (Tripadvisor, 2024).

A study conducted by Cardona et al. (2018) in Punta del Este with 420 residents revealed that economic benefits and socio-cultural costs have a significant effect on the overall attitude towards tourism. The perceived economic benefits are considered positive for supporting the arrival of more tourists. On the other hand, the perceived socio-cultural costs are considered negative and can affect the attitude towards tourism.

However, supporting the arrival of more tourists depends solely on the overall attitude towards tourism and the city's strategic planning. This means that residents' general perception of the benefits and costs of tourism, along with Punta del Este's high-quality hospitality and tourism infrastructure, play a crucial role in shaping the attitude towards tourism and supporting destination arrival (Porto, Espinola and Carella, 2023).

Punta del Este is a city known for its hospitality and high-quality tourist infrastructure. The study by Cardona et al., (2018) revealed that economic benefits and socio-cultural costs have a significant impact on the overall attitude towards tourism. Supporting the arrival of more tourists depends on the overall attitude towards tourism and the city's strategic planning. Punta del Este's strategic planning includes the development and marketing of experiences, innovation and quality, and investment and infrastructure, to promote sustainable tourism and constantly improving the city's tourism offer (Tripadvisor, 2024; Porto, Espinola and Carella, 2023; Punta del Este Bureau, 2024).

3 METHODOLOGY

Descriptive quantitative research is a methodological approach used to analyze and summarize numerical data, seeking to describe and synthesize the results of a representative sample of the population studied. This research is useful for obtaining accurate information and monitoring a particular theme or issue (Kruger, 2023). Its main objectives are to describe demographic and behavioral characteristics of people or groups, identify trends and patterns in large volumes of data, compare different groups or

conditions to identify differences, establish correlations between variables, and identify predictors of certain outcomes or behaviors (Bizarrias, da Silva and Penha, 2023).

To conduct this research, it is necessary to collect numerical data from a representative sample of the population and then organize and analyze it using statistical techniques such as frequency analysis and descriptive statistics (Hair Jr et al., 2017). The results are presented in a report that includes charts, graphs, and figures to illustrate the findings. Some software, such as Jamovi and Excel, were used for analysis and treatment of the data found.

3.1 RESEARCH AND DATA COLLECTION INSTRUMENT

The instrument used in the research is a questionnaire with 5 demographic variables and 15 variables represented on a Likert scale from 1 (strongly disagree) to 5 (strongly agree). The scale has already been used and validated by Meryem (2022) in the city of Istanbul, Turkey, where he evaluated 8 dimensions of smart tourism. For this study, 5 dimensions of the instrument developed by Meryem (2022) were used: a) information; b) accessibility; c) interactivity; d) personalization, and lastly e) security. The type of sampling is convenience sampling: members of the population are selected simply because they are available (Kruger, 2023).

Collecting data through surveys on social media and messaging apps gives you an advantage. The accessibility and popularity of these platforms allow them to reach a large amount of people in different geographic and demographic regions. This provides a diversity of responses, enriching the quality and representativeness of the data collected (Mineiro, 2020).

During the period from March 2023 to December 2023, this approach was applied in this scientific study to investigate the opinion and behavior of users about a given research topic (Mineiro, 2020). Through the survey, the researcher was able to collect a significant volume of data from a wide variety of participants in the territory of Brazil, 774 cases were collected.

4 ANALYSIS OF THE RESULTS

4.1 DEMOGRAPHIC DIMENSION

The demographics of a study include data such as age, gender, geographic location, educational level, occupation, and income of the analyzed population. This data is essential to understand the profile of the participants and how their characteristics can influence the results. The analysis of this information reveals trends, discrepancies, and patterns that are related to participants' responses and behaviors, allowing for a comprehensive and contextualized interpretation of the study's results (Bizarrias, Da Silva and Penha, 2023).

Regarding the genders collected from the survey, 63% are female and 37% are male. Regarding age, 18% are 18 to 20 years old, 42% are 21 to 35 years old, 23% are 36 to 60 years old and finally 17% are over 60 years old. Regarding the regions of Brazil that gave their opinion on Punta del Este, the central-west region represents 13.3%, the northeast region represents 17%, the north region represents 21%, the southeast region represents 27%, and the south region 22%. We can see that the southeast region was the one that most represented the opinions of Brazilian tourists about Punta del Este.

The economic income is represented by the value of the minimum wage in 2023 in Brazil in Real was R\$ 1320.00, this is the economic cut made in the survey:

- a) Low: Low-value family income, less than 2 minimum wages up to R\$ 2,640.00 (Ibge, 2023);
- b) Average: Intermediate family income, between 2 and 5 minimum wages between R\$ 2,640.00 and R\$ 6,600.00 (IBGE, 2023);
- c) Medium-High: Moderate family income, between 5 and 10 minimum wages between R\$ 6,600.00 and R\$ 13,200.00 (Ibge, 2023);
- d) High: High-value family income, above 10 minimum wages above R\$ 13,200.00 (Ibge, 2023);
- e) Very High: Very high family income about the national average, generally associated with more privileged classes (Ibge, 2023).

So, 22% have a high economic income, 26% have a low economic income, 4% have a very high economic income, 20% have an average economic income, and 28% have a medium-high income. How much the residence status is represented by the factor if the respondent is a tourist, and has been sightseeing in Punta del Este, this is represented by 86% of the respondents and the fixed variable represents if the respondent has a residence in Punta del Este which is represented by 14%.

4.2 INFORMATION DIMENSION

The information dimension in smart tourism plays a key role in today's digital age. Through the use of advanced technologies, such as artificial intelligence and big data, it is possible to discover, analyze, and use real-time information to improve the tourist experience (Meryem 2022). This dimension ranges from the availability of information on tourist destinations to the personalization of services based on the tastes and preferences of individual travelers, it also contributes to the promotion of lesser-known destinations and the preservation of local culture by allowing the sharing of relevant information with visitors (Chimbo Cujano, 2024). Chart 1 shows the descriptive statistics of this dimension.

Table 1 – Statistics on the evaluation of the information dimension

Variables	Information					Kurtosis		Shapiro-wilk	
	Average	IF	DV	Minimum	Maximum	Kurtosis	IF	W	P
Inf1	3.25	0.0391	1.09	1	5	-0.899	0.176	0.903	< .001
Inf2	3.78	0.0405	1.13	1	5	-0.488	0.176	0.859	< .001
Inf3	3.49	0.0399	1.11	1	5	-0.404	0.176	0.891	< .001
The total average rating of the dimension is 3.50									

Source: prepared by the authors (2024)

Chart 3 presents descriptive data related to three determined variables (Inf1), (Inf2), and (Inf3). These variables have measures of central tendency, such as mean, standard deviation, and minimum and maximum values. The mean values of the variables are 3.25 for (Inf1), 3.78 for (Inf2), and 3.49 for (Inf3). The standard deviation is approximately 1.09 for (Inf1), 1.13 for (Inf2), and 1.11 for (Inf3). The minimum and maximum values are 1 and 5 for all variables.

Kurtosis is a measure that indicates the degree of concentration of data around the mean. The kurtosis values for (Inf1), (Inf2), and (Inf3) are -0.899, -0.488, and -0.404, respectively. The Shapiro-Wilk test is used to check whether a sample follows a normal distribution. The W values for (Inf1), (Inf2), and (Inf3) are 0.903, 0.859, and 0.891, respectively. The p-value associated with each test is less than 0.001, indicating that the samples do not follow a normal distribution (Hair Jr et al., 2017). The overall average size was 3.50.

4.3 ACCESSIBILITY DIMENSION

Accessibility in smart tourism refers to the ease of tourists in accessing and obtaining travel services. The information provided to destinations through different types of smart tourism technologies makes life easier for tourists, making the use of these technologies easier and more convenient. When smart tourism technologies are extremely accessible, tourists have an easier time exploring information during all stages of their journeys (Zhang, Sotiriadis and Shen, 2022). Chart 2 shows the descriptive statistics of this dimension.

Table 2 – Statistics on the evaluation of the accessibility dimension

Variables	Accessibility					Kurtosis		Shapiro-wilk	
	Average	IF	DV	Minimum	Maximum	Kurtosis	IF	W	P
Acess1	3.72	0.0416	1.16	1	5	-0.199	0.176	0.855	< .001
Acess2	2.94	0.0466	1.30	1	5	-0.980	0.176	0.902	< .001
Acess3	3.14	0.0410	1.14	1	5	-0.557	0.176	0.908	< .001

The total average rating of the dimension is 3.27

Source: prepared by the authors (2024)

The variable Acess1 has a mean of 3.72, with a standard error (SE) of 0.0416 and a standard deviation (DV) of 1.16. The minimum value observed for this variable was 1, while the maximum value was 5. The kurtosis of this variable is -0.199 and the SE for kurtosis is 0.176. The value of W is 0.855, and a statistical significance of ($p < 0.001$). On the other hand, the Acess2 variable has a mean of 2.94, with a standard error (SE) of 0.0466 and a standard deviation (DV) of 1.30. The minimum value observed was 1, while

the maximum value was 5. The kurtosis of this variable is -0.980, with an SE for kurtosis of 0.176. The W value is 0.902, and it registered a statistical significance of ($p < 0.001$).

The variable ACESS3 has a mean of 3.14, with a standard error (SE) of 0.0410 and a standard deviation (DV) of 1.14. The minimum value observed was 1, while the maximum value was 5. The kurtosis of this variable is -0.557, with an SE for kurtosis of 0.176. The W value is 0.908 and has a statistical significance of ($p < 0.001$). The overall average of the dimensions was 3.27.

4.4 INTERACTIVITY DIMENSION

Interactivity influences the way tourists react to this communication (Gretzel et al., 2015). The presence of this attribute makes it easier to obtain information, and when tourists experience a high level of interactivity, they tend to express their opinions and evaluations (Romao and Neuts, 2017). This attribute results in a specific and positive impact on the fluid flow of the tourist experience. Chart 3 shows the descriptive statistics of this dimension.

Table 3 – Statistics of the evaluation of the interactivity dimension

Variables	Interactivity					Kurtosis		Shapiro-wilk	
	Average	IF	DV	Minimum	Maximum	Kurtosis	IF	W	P
Inter1	3.26	0.042	1.19	1	5	-0.660	0.176	0.904	< .001
Inter2	3.13	0.0450	1.25	1	5	-0.901	0.176	0.908	< .001
Inter3	3.16	0.0503	1.40	1	5	-1.273	0.176	0.886	< .001

The total average rating of the dimension is 3.18

Source: prepared by the authors (2024)

The Inter1 variable had a mean of 3.26, with a standard error (SE) of 0.042 and a standard deviation (DV) of 1.19. The minimum value observed for this variable was 1, while the maximum value was 5. The kurtosis of this variable is -0.660, with an SE for kurtosis of 0.176. The W value is 0.904 and has a statistical significance of ($p < 0.001$).

The Inter2 variable has a mean of 3.13, with a standard error (SE) of 0.0450 and a standard deviation (DV) of 1.25. The minimum value observed was 1, while the maximum value was 5. The kurtosis of this variable is -0.901, with an SE for kurtosis of 0.176. The W value is 0.908 and registered a statistical significance of ($p < 0.001$).

The Inter3 variable has a mean of 3.16, with a standard error (SE) of 0.0503 and a standard deviation (DV) of 1.40. The minimum value obtained was 1, while the maximum value was 5. The kurtosis of this variable is -1.273, with an SE for kurtosis of 0.176. The W value is 0.886, decreasing to a statistical significance of ($p < 0.001$). The total average of the evaluation of the interactivity dimension, considering the three variables, is 3.18.

4.5 DIMENSION CUSTOMIZATION

According to users' consumption patterns, personalities, and past preferences, tourists can receive suggestions through large-scale data analytics or cloud computing (Un T et al., 2022). Personalized services with tailored communication can meet the needs of tourists, save time, maximize tourist satisfaction at tourist destinations and attractions, and increase the perception of service quality (Bilgihan and Ricci, 2024). Chart 4 shows the descriptive statistics of this dimension.

Table 4 – Statistics on the evaluation of the personalization dimension

Variables	Customization					Kurtosis		Shapiro-wilk	
	Average	IF	DV	Minimum	Maximum	Kurtosis	IF	W	P
Person1	3.03	0.0443	1.23	1	5	-0.861	0.176	0.912	< .001
Person2	3.29	0.0426	1.19	1	5	-0.939	0.176	0.905	< .001
Person3	3.91	0.0423	1.18	1	5	-0.714	0.176	0.913	< .001
The total average rating of the dimension is 3.40									

Source: prepared by the authors (2024)

The Person1 variable had a mean of 3.03, with a standard error (SE) of 0.0443 and a standard deviation (DV) of 1.23. The minimum value observed for this variable was 1, while the maximum value was 5. The kurtosis of this variable is -0.861, with an SE for kurtosis of 0.176. The value of W is 0.912, and a statistical significance ($p < 0.001$).

The Person2 variable has a mean of 3.29, with a standard error (SE) of 0.0426 and a standard deviation (DV) of 1.19. The minimum value observed was 1, while the maximum value was 5. The kurtosis of this variable is -0.939, with an SE for kurtosis of 0.176. The W value is 0.905 and was statistically significant ($p < 0.001$).

The Person3 variable has a mean of 3.91, with a standard error (SE) of 0.0423 and a standard deviation (DV) of 1.18. The minimum value observed was 1, while the maximum value was 5. The kurtosis of this variable is -0.714, with an SE for kurtosis of 0.176. The W value is 0.913 and has a statistical significance ($p < 0.001$). The total mean of the evaluation of the dimension, considering the three variables, is 3.40.

4.6 SECURITY DIMENSION

The protection and security of personal information are essential attributes of technology, especially in the context of tourism. When tourists perceive that the security of their personal information is at risk, they may choose not to carry out transactions for privacy and security reasons (Carvalho Pereira and Biz, 2023). This can affect the characteristics of the tourist's experience with smart tourism technologies. A is one of the main factors evaluated by tourists about tourism-related security services, encompassing the protection of information during transmission and storage, security of online purchases and reservations, and ensuring confidentiality and privacy (Buhalis and Amaranggana, 2013). Chart 5 shows the descriptive statistics of this dimension.

Table 5 – Statistics on the assessment of the security dimension

Safety						Kurtosis		Shapiro-wilk	
Variables	Average	IF	DV	Minimum	Maximum	Kurtosis	IF	W	P
Mon1	3.24	0.0461	1.28	1	5	-1.032	0.176	0.904	< .001
Mon2	3.61	0.0452	1.26	1	5	-0.704	0.176	0.871	< .001
Mon3	3.64	0.0430	1.20	1	5	-0.464	0.176	0.872	< .001
The total average rating of the dimension is 3.50									

Source: prepared by the authors (2024)

The Seg1 variable had a mean of 3.24, with a standard error (SE) of 0.0461 and a standard deviation (DV) of 1.28. The minimum value observed for this variable was 1, while the maximum value was 5. The kurtosis of this variable is -1.032, with an SE for kurtosis of 0.176. The W value is 0.904, decreasing to a statistical significance ($p < 0.001$).

The Seg2 variable has a mean of 3.61, with a standard error (SE) of 0.0452 and a standard deviation (DV) of 1.26. The minimum value observed was 1, while the

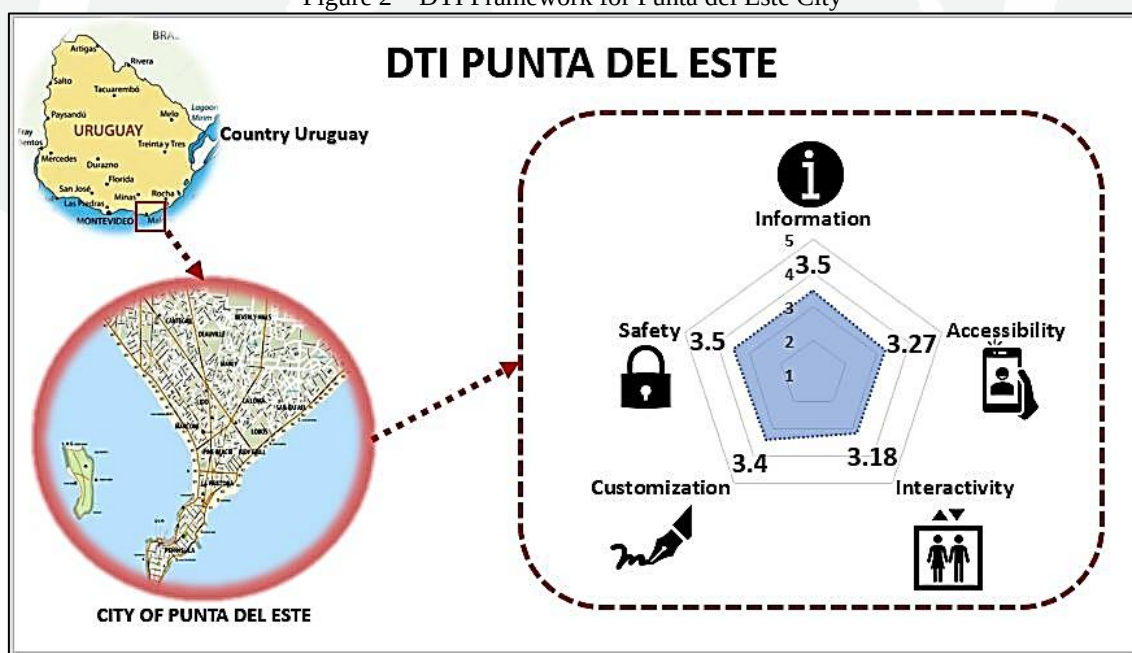
maximum value was 5. The kurtosis of this variable is -0.704, with an SE for kurtosis of 0.176. The W value is 0.871, with a statistical significance ($p < 0.001$).

The Seg3 variable has a mean of 3.64, with a standard error (SE) of 0.0430 and a standard deviation (DV) of 1.20. The minimum value observed was 1, while the maximum value was 5. The kurtosis of this variable is -0.464, with an SE for kurtosis of 0.176. The W value is 0.872, decreasing to a statistical significance ($p < 0.001$). The total mean of the evaluation of the dimension, considering the three variables, is 3.50.

4.7 CONCEPTUAL FRAMEWORK OF THE RESEARCH

The DTI Punta Del Este Framework proposes a model for the development of smart tourism technologies (DTI) that aims to improve the experience of tourists. DTI integration provides up-to-date, reliable, and accurate information, optimizing the time spent searching for relevant information. Figure 2 shows the conceptual framework of the research.

Figure 2 – DTI Framework for Punta del Este City



Source: (by authors, 2024)

Information, accessibility, interactivity, personalization, and security are important dimensions in this process, with values of 3.5, 3.27, 3.18, 3.4, and 3.5, respectively. These dimensions are key to facilitating tourists' access to tourism products and services, promoting real-time communication, adapting technologies to individual needs, and ensuring the protection of personal information.

5 CONCLUSION

To enable a successful digital transformation, technology in an organization must be perfectly aligned with the principles, mission, culture, and processes of the business. Smart technologies applied to tourism have significant changes in the city, revolutionizing tourism companies, products, and experiences, as well as ecosystems and destinations. DTIs play a crucial role in the development of smart tourism as well as regional tourism. In this way, many tourist destinations and attractions have smart innovative technologies to provide tourists with a convenient, friendly, and personalized travel experience, increasing their satisfaction.

Smart technologies assist destinations in improving the management of tourism resources, promoting the maximum utilization and development of these resources, and improving the quality of life for both residents and tourists. In particular, the DTI Punta Del Este Framework can be an academic approach to the development of smart tourism technologies that aim to enhance the experience of tourists by ensuring efficient integration of information, interactivity, personalization, and security for tourist spots in Latin America.

Benefits of the DTI Punta Del Este framework:

- a) Improved visitor experience: DTI offers accurate and personalized information, helping visitors plan and carry out their trips with greater efficiency and contentment;
- b) Improved efficiency: Integration of different systems optimizes operations and reduces costs for companies in the field;
- c) Market expansion: The development and implementation of DTI can attract new visitors and increase the competitiveness of the industry.

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