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ORIGINAL RESEARCH ARTICLE

# Virtual accessibility in smart tourism destinations: The cases of Curitiba and Malaga

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## ABSTRACT

Smart tourism destinations innovate using technology as a management and planning tool, providing information for managers, community and tourists. The search for sustainable development occurs through participatory management, in which mobility, accessibility, and quality of life are allied to experiences in the destination, in order to satisfy residents and tourists. Therefore, this work aims to evaluate Curitiba and Malaga, in a comparative way, as an intelligent tourist destination, based on criteria of virtual accessibility. To this end, use was made of qualitative, descriptive and exploratory methods whose main data collection techniques were: Bibliographic and documental research, recording by means of an investigation script on tourism websites. The analyses were carried out by means of a theoretical-practical pairing. It was observed that both cities, Curitiba and Malaga, are developing actions with the objective of being recognized as intelligent tourist destinations, as to the criteria of virtual accessibility.

***Keywords*:** tourism; virtual accessibility; smart tourism destination; Curitiba; Malaga

## 1. Introduction

Cities, spaces of opportunities and exchanges, consist of environments in constant transformation and conflict, requiring from the public power a continuous monitoring and a management that is prepared to deal with rapid and often unpredictable changes, in an attempt to meet the multiple needs and the satisfaction of the users of the city. To this end, a new way to analyze and manage a city has emerged, referred to by many as Smart Cities[1,2].

Smart cities are those that have been developing, using technologies, mechanisms for sustainable development, which include a participatory management with a means of governance. These, aided by technological means, seek to acquire data and transform them into information to manage the city in order to provide quality of life to its citizens, satisfying their main needs in a space accessible to all, interactive and with quality urban infrastructure and services[3,4].

Likewise, urban tourist destinations have been following such changes and adapting to this new reality, in order to create competitive value and improve the management of their spaces, to provide

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new experiences to tourists, seeking their satisfaction in an innovative, interactive, technological, sustainable and accessible environment. To this end, tourist destinations and smart cities have been transforming with the help of new technologies, basically, five urban elements: The economy; urban mobility; the environment; citizens and quality of life[5-7].

The tourist destination should be considered as a complex system of attractions, enterprises, infrastructure, tourists and citizens, requiring efforts from managers to plan and manage it in order to generate values and competitive advantages that meet the needs of all actors involved in tourism activity: Tourists, local population, private and public initiative. The intention is to produce positive images and competitive advantages. Thus, the use of new technologies comes to assist in the transformation of traditional destinations into innovative and accessible spaces, where there is integration and interaction between visitors, visitors, businesses, and urban space. Based on a sustainable development, which aims to add value and enable new experiences to visitors, providing a better quality of experience of tourists and residents with the city space, originating positive images, and thus placing itself as a smart tourist destination[1,4,5].

In the attempt to adapt a traditional tourist destination as a smart tourist destination, it is observed the need for a new form of management and interaction, being accessibility and urban mobility fundamental elements. New forms of use and control of these elements in the city must be worked out to enable quality experiences, which must use new technologies in the interaction space-service-user, providing information and services that qualify the urban space, assist in the decision making of managers and increase the experience in the tourist destination.

Therefore, this study aims to evaluate Curitiba and Malaga comparatively, as intelligent tourist destinations, based on the criteria of virtual accessibility. It was chosen to compare Curitiba with Malaga since, Malaga stands out as one of the five cities that best fit the model of intelligent tourist destination, in Spain. And Curitiba was chosen as a pilot project to be the first smart destination in Paraná[2,8].

The accessibility worked here is not limited to structural or architectural accessibility. For a smart tourism destination, the issue of information is fundamental, in this way, there is the need to evaluate the digital or virtual accessibility, which consists of the conditions of access to the information contained in the official tourism websites of the managers of the selected municipalities. Accessibility should be understood as the condition of independence of use and autonomy that the improvements provide to a person with disabilities, so the information is a fundamental element that will help him in decision making, in the acquisition of knowledge and in the way he is going to interact with the tourist destination.

## 2. Virtual accessibility: Basic element for smart tourism destinations

Cities must be thought to produce a quality environment, where public services available to the population meet their expectations ensuring life in society, satisfaction of the inhabitants, economic growth, quality of the environment, valuing the human potentialities existing in the city[9,10]. The actions of urban planning can leave marks in the city, which are appropriated by residents and by those who visit them, boosting the practice of tourism in the urban space. A new paradigm of urban management and planning in the 21st century consists in the adaptation of cities to a new reality, called smart cities.

This new way of managing and planning the city should be based on sustainable development, with a focus on innovation and competitive advantages, integrating objectives that will provide the urban space with economic, social and environmental gains through the use of new technologies and knowledge, which expand the management capacity and the improvement of urban services based on current and future demands, expanding the capacity for

learning and renewal[3,4,11]. Some authors[4-6], establish 6 characteristics of the city that must be worked on to adapt it to such a reality: Economy, society, governance, mobility, environment and quality of life.

Therefore, it consists in a city where investments in human and social capital provide a sustainable development, based on the adaptation of traditional means of transportation to more efficient transportation with less waste and better efficiency, enabling the use of the city to everyone where accessibility and knowledge must be within the reach of the users of the city. Technology and ICT's play an indispensable role in the transmission, capture and transformation of data into information for operational, managerial and strategic uses, focused on improving the quality of life in the city.

The concepts of smart cities are based on urban management and planning integrated with the use of new technologies, based on five basic pillars: Reduction of public spending; increase and efficiency in the quality of public services; support for decision making; stimulus for innovation; real-time information that favors transparency and management and citizen awareness[5,12]. Therefore, smarts cities are innovative urban environments that use information and communication technologies to improve management by obtaining large amounts of data in real time. These data collaborate to solve problems, creating public policies and strategies focused on environmental, social and economic sustainability through the efficient use of natural and human resources, an accessible city that ensures the population quality of life and opportunities[2,13].

In these concepts technology is observed as a transversal theme, which becomes an instrument of interaction, capture and transmission of information in real time, in an attempt to assist decision making the management takes place through a governance that aims at a strategic planning with social and environmental sensitivity that comes to exert its efforts in the transformation in five urban elements that are interrelated: the economy, quality of life, mobility, environment and citizens[4,6].

With the need to adapt to the new demands of city realities, the demands of tourism come to meet the transformation of destinations, focusing on the new realities imposed by the smart cities' paradigm. Hence the smart destinations, which consist of the adaptation of traditional destinations to new realities, making them innovative and accessible spaces to all, through the use of new technologies, in an attempt to climb the sustainable development and facilitate and expand the integration and interaction between visitors, visited, businesses and space, adding value and new experiences to visitation in an attempt to improve the quality of experience of tourists and residents with the city space[7,14,15].

Therefore smart tourism destinations seek to focus their efforts on the use of technologies and innovation in order to increase their competitiveness with the use of data generated by the tourists themselves, providing the opportunity to format customized products and in adding value to visitors through the provision of information, improvements in the provision of tourist services and in the experience of the tourist in the destination[2,14]. The concepts of smart cities and smart tourism destinations are still in transformation; however, it is necessary to highlight their similarities and differences. It is difficult to think of a smart destination without a smart city, since, in this case, the basis of the tourist destination is an urban space that has an innovative environment, with a focus on accessibility and sustainability, having in technology a fundamental tool for capturing, disseminating, generating and sharing data and information[2,4,14].

In turn, the differences between the concepts should be highlighted. For Pinto & Nakatani, the main ones consist: (a) the focus of improving services while seeking the satisfaction and quality of residents; (b) the experience and the quality of services to the tourist; (c) the geographical boundaries for the tourist destination may not be represented by the physical space of the city, but by a neighborhood, a locality, among others; (d) the way information is

generated and used, which, in the case of the tourist destination, occurs before, during and post-trip[2,13].

Accessibility consists of the possibility of autonomous and safe use of urban spaces, public services, buildings, urban furniture and communication equipment by all individuals, indistinctly, whether people with disabilities or not. Therefore, the term accessible is directly related to physical and communication accessibility, providing opportunities for the use, in an unrestricted and independent way, of physical and virtual structures[16-18].

In the case of tourist cities, the adaptation of public spaces and services, attractions, and tourist equipment are not enough to highlight them as tourist destinations. It is necessary that these adaptations are informed to users, in order to provide real and safe information about the possibilities of use of the destination for people with disabilities, elderly, individuals with reduced mobility and families with small children. Information is as important as adaptation. In this context, a tourist destination that intends to hold the title of intelligent tourist destination must work to enable access to the city spaces and mainly use all electronic means to inform and enable new experiences in an inclusive tourist activity[5,19].

Therefore, it is not enough just structural accessibility, which consists in the elimination of physical barriers in buildings, streets and tourist attractions, but it is necessary to think and work on digital accessibility, to enable everyone with fast, safe, reliable and mainly accessible information. Since the new technologies linked to tourism have enabled tourists to seek information before the trip, during and share their experiences at the time they are making the visitation and after it. Thus, producing and disseminating experiences and opinions of services and tourist attractions[20,21].

One of the main difficulties of many people with disabilities is to get information about the accessibility conditions of destinations and tourist services. The availability of this information in a clear and easy way on websites and social networks should be a principle of intelligent tourist destinations, providing pages that are accessible, since the Internet is a plural space, considering that users use it in very different ways, and need all forms to be compatible with their needs[22-24].

Digital accessibility consists of providing universal access to websites, enabling their use to all individuals, without restrictions regarding software, hardware, language, territories, and disabilities. To this end, it is necessary to overcome problems and to be: perceivable, navigable, have understandable information and robustness[21,25]. Being that it is understood by perceptible when the user can find the information, they need on the page they are on. As for being navigable, the page must be operational in various types of devices, so that the user navigates through it according to their choice and availability. Understandable means that the page must make itself understood, the user cannot find difficulties in understanding the content available and finally, the principle of robustness, consists of the independence of Internet technology to access the information.

The basic elements, according to Martinez and Monserrat-Gauchi, for a content to be understood and can contextualize everything that can be found on the page enables accessibility to websites through techniques and mechanisms such as: (a) Labels: Or banners on the page should be clear with the objectives and content placed on them, and related to them; (b) Content orientation tools: There should be a map with the general structure of the page and the information available, as well as an intuitive search engine that allows access to all the content; (c) Visible and identifiable: The navigation tools should be visible and present themselves in the same way always to thus facilitate the identification of content and information quickly and consistently; (d) Content presentation system: When there is information and content from other pages, it is recommended that these open in other navigation windows to facilitate the return to the page and the original content; (e) Diversity of languages: It is recommended that the information on the site be available in at least one or two other languages according to the profile of the

page user.

Some international organizations seek to develop manuals to guide the producers of websites for more accessible pages based on these principles to enable a virtual environment for everyone to use. An example is the W3C, which developed the Web Accessibility Initiative, in an attempt to direct elements regarding the accessibility of websites[20,24]. The W3C has organized a guide called WCAG 2.0, which classifies websites into accessibility levels according to certain principles into A, AA, and AAA. Many countries, such as Spain, see by law obliging the country's public institutions to have on their official pages, as a minimum, the principles of levels A and AA[25].

Level A consists of the minimum necessary to navigate the pages and lists their use in terms of accessibility. It consists of web pages having the following characteristics: Non-textual content; keyboard; information and relations; page language; hyperlinks to other pages; duplicates[25,26].

The AA level must comply with all the requirements of the previous level and also have: Text size, the font size of the page text must be resizable without the aid of other technologies, being able to increase up to 200% without deformities in content and navigation; keyboard access—it must be proven that all navigation functions of the page can be performed through the keyboard, thus offering an intermediate or medium level of accessibility[26].

Finally, the maximum level of accessibility of a web page would be AAA, which in addition to having all the characteristics already described above, should still contain: Interruption—there should be no interruptions by banners and pages that open automatically during navigation; section headers—the content should be divided into sections properly identified on the page and have an identified html for each section; when there are hyperlinks with short texts, there should be additional information regarding the destination of the link; content exchanges—content exchange should occur only through the user's request and if there are automatic exchanges there should be a tool to disable it[20,26].

Based on these principles and elements, it is believed that it is possible to achieve digital accessibility, which is mistakenly related to structural or architectural accessibility. These are distinct concepts, but they must be implemented together in an attempt to provide the traditional tourist destination a transformation into an intelligent tourist destination, enabling all visitors to circulate through the attractions and services of the destination, as well as easy, fast and consistent access to all users to information and content on their websites.

In the attempt to adapt a traditional tourist destination into an intelligent tourist destination, there is the need for a new form of management and interaction, and both physical and digital accessibility are fundamental elements of the activity. New forms of use and control of these elements in the city must be worked out to enable quality experiences, which must use new technologies in the interaction space, providing information and services that qualify the urban space, assist in the decision making of managers and increase the experience in the tourist destination.

Finally, a smart city or tourist destination must respect and meet the demands of all its users, thus the issue of accessibility needs to be at the center of the actions, offering everyone the right and opportunity to use the city through spaces of inclusion, without constructive and social barriers, enabling the coming and going in an autonomous and independent way, making the city available to users, whether they have disabilities or not, providing physical and digital accessibility in a more social and intelligent tourism based on inclusion.

## 3. Methodological procedures of the research

The research in question is characterized as descriptive and exploratory, qualitative in nature. For this purpose, this study occurred in different moments, the first of them consisted of a desk research

that counted as a data collection technique the bibliographic survey in books, scientific journals, annals of events, among others. The themes highlighted were: Smart city, smart tourist destination; accessibility and tourism. The following were used as databases: Scopus, Science Direct, Dialnet, Redalyc, Scielo, Tourism Publications and the Capes Periodical Portal, to theoretically ground the work and assist in data analysis.

The analysis of accessibility in Curitiba and Malaga and its context to characterize the city as an intelligent tourist destination, was done through the evaluation of digital accessibility. For this, the research focused on the official websites of the tourist destinations. The official websites of the agencies responsible for tourism promotion of Curitiba (https://turismo.curitiba.pr.gov.br/) and Malaga (http：// www.malagaturismo.com/) were visited to verify the efforts and adaptations to the model of smart tourist destinations, in the dates from January to March 2020.

For this stage of the research used an investigation script developed through readings[20,25], the Manual Operativo para la Configuración de Destinos Turísticos Inteligentes, of the Instituto Valenciano de Tecnologias Turísticas, and the W3C Web Accessibility Guide. Which resulted in **Table 1** of Accessibility Research Roadmap on Official Tourism Websites.

**Table 1.** Roadmap of accessibility investigation in official tourism websites

| **Official Website** | | | |
|---|---|---|---|
| General Characteristics | YES | NO | PARTIAL* |
| W3C Accessibility | | | |
| Accessibility level A | | | |
| Command on keyboards | | | |
| Presentation of keyboard commands | | | |
| Images with text content | | | |
| Idiom signposted at the top of the page | | | |
| Hyperlinks with textual content | | | |
| No duplicate content or tags | | | |
| AA accessibility level | YES | NO | PARTIAL* |
| Up to 200% letter resizing | | | |
| Perfectly flinching keyboard functions | | | |
| AAA level accessibility | YES | NO | PARTIAL* |
| No automatic page and banner openings | | | |
| Division of sections in extension HTML | | | |
| Hyperlinks with destination information | | | |
| Content exchange only under guidance and automatic content pause tool | | | |
| Ultimate level of accessibility: | | | |
| Basic Features of the website | | | |
| Must be adapted for mobile version | YES | NO | PARTIAL* |
| Constant navigation menu in all sections | | | |
| Navigation menu compatible with the content and always present without the need for a scroll bar | | | |
| Sections with more than one content with local navigation systems | | | |
| Possibility to access the sections independently, with up to 5 dies | | | |
| Content characterized by colors or other graphic elements, to show where you are navigating | | | |

**Table 1.** (*Continued*).

| | |
|---|---|
| Consistent, clear and precise term labels | |
| Site map in a clear way, demonstrating the whole structure of the page | |
| Search in fixed space always accessible | |
| Hyperlinks open your contents in a new browser window | |
| Translation in more than two languages | |
| There are audio and video intonations of the same content on the page, or an alternative sensory channel | |
| Understandable and navigable content | |
| Contrasting colors between background and text | |
| Possibility of returning to the beginning of the page | |

Prepared by the author (2021).

*PARCIAL: The partial criterion is indicated when the characteristic of the website exists, but not in full functioning, presenting some restrictions.

Finally, in the last stage of the research, the data obtained were analyzed, which are presented in the form of charts and tables. The validation of the results occurred according to Laville & Dionne[27], by pairing them with the conceptual discussion held previously in the theoretical framework and in other scientific works, and the data found in the field research. The use of pairing is justified, since the researcher will seek, from a theoretical approach, to understand the phenomenon studied. It is essential the association between theory and reality, ensuring the quality of the study developed by achieving the objectives proposed for the study[27].

## 3.1. Virtual accessibility in Curitiba and Malaga

Intelligent Tourist Destinations consist of a new way of managing the destination and of seeking innovative mechanisms with the help of new technologies to improve the services provided to citizens and visitors. To this end, it is essential that the city can be used by all individuals regardless of any type of restriction, so accessibility is an important issue when we want to adapt a traditional and smart tourist destination, since the proper functioning and access to the city will depend on improvements in the issue of movement of people, merchandise and information, as well as in new opportunities to use the spaces of a city[3,4,14].

The satisfaction of users of a tourist destination is directly linked to the hospitality transmitted by the destination and the experiences lived by individuals in tourist spaces. Thus, accessibility, be it architectural or virtual, comes to contribute significantly to these two factors, either through the elimination of barriers, providing opportunities for the autonomous and safe use of the city, where the city is available and accessible to all, originating spaces of inclusion and social coexistence, or through access to reliable and accessible information about the tourist destination and the city that one is visiting[2,5,6].

To meet the demand of their users, the two cities have been transforming themselves into intelligent tourist destinations, eliminating architectural barriers in order to improve the circulation and access to the city and promoting accessibility in order to include and provide opportunities for everyone to visit the city. But in addition to physical accessibility, there is the need for the tourist destination to have its information available to visitors regardless of language, disability or technology structures, in order to provide data: available, real, current, understandable, navigable and accessible[20]. In this way, virtual accessibility consists in another aspect of a smart tourism destination, since these have in information technology its transversal factor that crosses all the pillars that will give subsidy to a smart tourism destination[4,5].

Therefore, access to information is as important as physical suitability, so that individuals have at their disposal, through electronic devices, information that enable them to new experiences and

knowledge in a more inclusive tourism activity. Based on these criteria was performed during the study the evaluation regarding the virtual accessibility of the official tourism websites of Curitiba and Malaga. **Table 2**, evaluates the accessibility of Curitiba's official tourism website.

**Table 2.** Evaluates the accessibility of Curitiba's official tourism website

| Official Website<br>General Characteristics | | | |
|---|---|---|---|
| W3C Accessibility | YES | NO | PARCIAL |
| Accessibility Level A | | | |
| Keyboard controls | | | X |
| Display of Keyboard Commands | | X | |
| Images with text content | X | | |
| Language marked at the top of the page | | X | |
| Hyperlinks with textual content | X | | |
| No duplicate content or tags | X | | |
| Accessibility Level AA | YES | NO | PARCIAL |
| Font resizing up to 200% | X | | |
| Perfectly functioning keyboard functions | | | X |
| AAA level of accessibility | YES | NO | PARCIAL |
| No automatic banner and page openings | X | | |
| Division of sections in the extension | X | | |
| HTML Hyperlinks with information about the destination | X | | |
| Content switches only under guidance and automatic content pause tool | | | X |
| Final accessibility level: | | | |
| Basic Website Features | YES | NO | PARCIAL |
| Must be adapted for mobile version | X | | |
| Constant navigation menu in all sections | X | | |
| Navigation menu compatible with the contents and always present without the need for scrolling | X | | |
| Sections with more than one container with local navigation systems | X | | |
| Possibility to access sections independently with max. 5 clicks | X | | |
| Content characterized by colors or other graphical elements, to show where you are navigating | | | X |
| Tags with consistent, clear | X | | |
| Clearly arranged site map, showing all page structure Search in fixed space always accessible | | | |
| Hyperlinks open your content in a new browser window Page translation in more than two languages | X | X | |
| There is audio and video information of the same content on the page, or an alternative sensory channel | X | | |
| Understandable and navigable content | X | | |
| Contrasting colors between background and text | X | | |
| Possibility of returning to the beginning of the page | X | | |

Prepared by the author (2021)

Curitiba's official tourism website is very well structured with information and easy navigation, understandable data and partially meets the recommendations of the W3C guide. It can be said that some elements are still missing for the site to be classified as A or AA, the main problem consists in the keyboard commands, which are not written or presented to the user making it difficult to use them. Another problem is the language in which the page is written, it is not identified in the beginning of the site and there is no translation to another language. Therefore, it can be said that this site is well adapted, but it is not totally accessible.

As for the general characteristics of the page, it is very well elaborated with precise and well-organized content, making it easy to identify the elements you are looking for. With images in good resolution, but the absence of more than one language compromises the accessibility of the information to individuals who do not speak Portuguese. Therefore we can classify the official website of Curitiba as a limited accessibility, because its information cannot be accessed by everyone and the language is the main barrier in the transfer of this information, as well as the lack of information regarding the navigation of the site by keyboard, which compromises its accessibility. Many of the problems found in Curitiba's website are repeated in Malaga's official website, as can be seen in **Table 3**.

**Table 3.** Evaluation of the tourism website of Malaga, year 2020

| Official Website | | | |
|---|---|---|---|
| General Features | YES | NO | PARCIAL |
| W3C Accessibility | | | |
| Accessibility level A | | | |
| Keyboard controls | | | X |
| Display of Keyboard Commands | | X | |
| Images with text content | X | | |
| Language marked at the top of the page | X | | |
| Hyperlinks with textual content | X | | |
| No duplicate content or tags | X | | |
| Accessibility Level AA | YES | NO | PARCIAL |
| Font resizing up to 200% | X | | |
| Perfectly functioning keyboard functions | | | X |
| AAA level of accessibility | YES | NO | PARCIAL |
| No automatic page and banner openings | | | |
| Division of sections in the HTML extension | X | | |
| Hyperlinks with information about the destination | | | |
| Content changes only under guidance and automatic content pause tool | | | |
| Ultimate level of accessibility: | X | | |
| Basic Website Features | | | |
| | YES | NO | PARCIAL |
| Must be adapted for mobile version | X | | |
| Constant navigation menu in all sections | | | |
| Navigation menu compatible with the contents and always present without the need for scrolling | | | |
| Sections with more than one content with local navigation systems | X | | |
| Possibility to access sections independently, with a maximum of 5 clicks | X | | |
| Content characterized by colors or other graphical elements, to show where you are navigating | | X | |
| Tags with consistent, clear | X | | |

**Table 3.** (*Continued*).

| | | |
|---|---|---|
| Site map clearly showing all page structure | X | |
| Search in fixed space always accessible | X | |
| Hyperlinks open their contents in a new browser window | X | |
| Page translation in more than two languages | X | |
| There is audio and video information of the same content on the page, or an alternative sensory channel | | X |
| Understandable and navigable content | X | |
| Contrasting colors between background and text | X | |
| Possibility of returning to the beginning of the page | X | |

Prepared by the author (2021)

Unlike Curitiba's website, Malaga's official tourism website displays a W3C accessibility seal, identifying it with level AA of accessibility. However, when analyzing the website, it can be said that it can be classified with level AAA, since it meets all the established criteria. Just like Curitiba's site, what is lacking is the presentation of the keyboard commands, which makes it difficult for people who cannot use the mouse for any reason to evaluate and navigate. As for the page's characteristics, one can say that it is totally navigable, with content that is very well organized and easy to access. The page can be translated into up to seven languages, which greatly expands access to information due to the diversity of languages[25,26].

When comparing the two websites, it can be said that both have a good level of digital accessibility, with the official Malaga website being more accessible due mainly to the possibility of translation in seven different languages. Curitiba's official website, on the other hand, loses accessibility due to the language barrier and for not fully meeting the criteria of the W3C guide. However, it should be noted that both sites meet the issue of digital accessibility with robust pages, navigable, understandable and easy to understand, with relevant and quality content that help tourists to organize and plan the visit to both tourist destinations[20,25].

Thus, making it possible to overcome the barrier of lack of information or the difficulty of access to it, since in many cases what hinders tourism for people with disabilities is the absence of information about the level of accessibility of a tourist destination both: In the attractions, in the enterprises as in urban services[22,23]. For a smart tourist destination, structural or architectural accessibility is not the only focus, it is necessary to inform and enable autonomy, safety and hospitality in digital media so that tourists can obtain information and decide independently where to travel.

Therefore, information in accessible digital channels is a two-way street, where tourists will receive information, but should also share their experiences and ask questions about the destination, and the answers to these questions should be answered as soon as possible. Thus, the municipal tourism managers will be able to transmit, but also to acquire information regarding the needs and satisfaction of specific publics such as people with physical disabilities. To become an intelligent tourist destination, accessibility does not consist simply in adapting the city for people with disabilities, it is necessary to go beyond, it is necessary to overcome architectural barriers with accessible structures and spaces, adapted public transportation and transparent, easily navigable and accessible information. Thus, enabling the necessary elements for individual autonomy, regardless of their physical limitations, in a destination that values the quality of experiences, safety, comfort and hospitality in a more egalitarian and accessible space for all, where technologies are used to transmit and acquire information in an attempt to guide the decision making of the managers of tourist destinations.

# 4. Final considerations

Intelligent tourist destinations need to transmit

to their consumers positive images, based on the attractions, services, and existing infrastructure that can satisfy the needs of tourists and residents, through a development that uses technology to assist in the planning and management of accessible tourist spaces with quality of visitation that will provide unique experiences. The development of an intelligent tourist destination must be integrated with urban development policies in terms of mobility, environment, economy, social and cultural aspects. Where technology comes to unite information and data and be an instrument of interaction, planning and management, enabling integration between the developed policies, society, space and tourists.

The virtual accessibility of the websites of both cities should be an instrument that enables this interaction, so they need to be accessible, allowing access to relevant information about the tourist destination in order to transmit data about the destination in an efficient way, with navigable systems in various platforms and systems, with clear and understandable information, meeting the various requirements and international standards. It is worth mentioning that the main barrier found in Curitiba's website is the issue of the page's language, which does not have the possibility of translation into other languages. As for the other criteria of virtual accessibility, both destinations meet the minimum requirements and go beyond, presenting accessible websites and easy navigation, with clear information compatible with its objectives.

An intelligent tourist destination must be prepared, in various aspects such as: Structural, economic, social, political, cultural, virtual and environmental; to deal with the differences and uncertainties with the help of innovative technologies, in order to meet and satisfy its users, whether tourists or residents, in a space that enables sustainable development and quality of life, thus giving the destination a positive image and competitive advantages in the tourism market.

Thus, the discussion about accessibility, whether physical or virtual, should be at the heart of the debate when discussing smart tourist destinations, the democratic use of spaces and technologies thus assisting the decision making of tourists and managers, as well as influencing the lived experience are characteristics of smart destinations. Thus, discussing and reviewing accessibility of websites and applications is an eminent need in order to provide information, interaction and connectivity to all. This study does not end with these final considerations, just as the methodology used is not definitive and unquestionable, the scholars in the area must seek new forms of research and investigations in a transdisciplinary way in order to demonstrate and instigate the transformation in our tourist destinations.

## Conflict of interest

The authors declare no conflict of interest.

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