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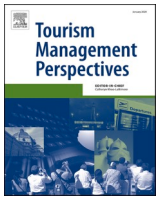

Beyond technical website compliance: Identifying and assessing accessible tourism value chain information content on national tourism organisation websites

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ABSTRACT

COVID-19 has produced numerous changes in the tourism sector, accelerating the transition to digitally based offers. Today, most tourists use the internet, including people with disability, the elderly, families with children and others with access needs. However, while there have been many studies examining the technical access compliance of websites, there have been no studies that have examined the access information content across the accessible tourism value chain. Thus, the aim of this study is to analyse the access information content provided about the accessible tourism value chain on official national tourism organisation websites. The sample was 198 websites; the findings showed there is a general lack of quality and quantity in the information on the accessible tourism value chain. There were major problems with the visibility, level of detail, correctness and completeness of information. This finding has implications for the appropriateness, effectiveness, efficiency and sustainability of accessible tourism content offerings for people with disability and others with access needs, and the opportunity generated by the use of online resources and tools for destination regions.

1. Introduction

The impact of the COVID-19 pandemic that appeared at the end of 2019 transformed the lives of people around the world. The economic and social repercussions of the pandemic are innumerable, but one of the sectors most affected was tourism (Behsudi, 2020). Aside from the economic effects, COVID-19 changed our habits and lifestyles, with people with disability (PwD) affected to a much higher degree than people without disability, across all areas of social participation (Shakespeare et al., 2021). At the same time, the pandemic accelerated the digitalisation of the customer-company relationship, with a clear increase in data traffic and in online purchases of consumer goods (Hootsuite, 2020).

This trend was reflected in the tourism sector, and in 2022 e-commerce linked to tourist services increased across the board (Hootsuite, 2022). A clear example of this trend was the widespread use of digital media platforms to source information and communication over the internet, which has grown online traffic (e.g. websites, emails, blogs and social media) (Sizan et al., 2022). One of the problems this generates is inconsistency of information platforms due to a lack of uniformity, and as a result, it is difficult for potential tourists, especially PwD, to determine, with the information available, "whether accessible facilities meet their specific requirements, leading to mistrust and confusion" (Nigg & Peters, 2022:290).

In response to this phenomenon, this work examines the accessible tourism value chain content information of national tourism organisation (NTO) websites, understanding the content information through the "tags, meta data, designations, annotations, information and documentation available on websites" (Free Content License Agreement, 2017np). Hitherto, most research focused on tourism websites has examined their compliance with international protocols on website technical accessibility, such as the World Wide Web Consortium (W3C). Up to 2023, more than 90 % (38 of 42 articles identified for this research) of documents available in Scopus, with the words accessibility and web or website in the title, were focused on technical accessibility. Yet, to allow PwD and other potential accessibility beneficiaries (e.g. seniors will be discussed later) to make informed decisions in their tourism travel planning, they need to both functionally use NTO websites and find access information on the accessible tourism value chain that provides content tailored for their disability type and level of

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support needs (Darcy, 2010).

The information accessed during the travel planning stage is a crucial element that may help or constrain PwD to organise travel (Hefny, 2024; Melian, et al., 2018), facilitate them to redesign their previous travel planning (Daniels et al., 2005), and avoid main travel constraints: attitudinal, physical, and information and communication (Randle & Dolnicar, 2019). While recent research has analysed PwD inclusion in marketing and distribution of access content in different countries (Benjamin et al., 2021), disability travel bloggers (Hefny, 2024) and tourism social media (Altinay et al., 2016; Chang et al., 2021), no analysis has been undertaken into NTO website access related content information.

This fact is very relevant because PwD are a significant group; with estimates suggesting that over 16 % of the world's population has a disability, which equates to 1.3bn people (World Health Organisation [WHO], 2023). The ageing of the global population is exacerbating the situation, as there is a clear causal relationship between ageing and increasing rates of disability over people's lifespans (WHO, 2012); an estimated 35 % of people over 65 years have some form of disability (Fuguet, 2008). In 2018, the WHO revised their previous estimates and now expects that, by 2050, the number of people over 60 years of age will double, reaching 2.1 billion, and that by 2100 the figure could reach 3 billion (WHO, 2018). The WHO estimates that by 2050 this will increase the number of PwD to 1.5bn of the global population.

Based on this information, access beneficiaries have been conservatively estimated to be 31 % of the global population, including people with permanent disability, those with temporary disability, seniors with access needs, families with young children and employees (derived from the creation of safer working environments) (Darcy & Dickson, 2009). A great deal of research has shown the economic importance of access beneficiaries to the tourism sector (Darcy et al., 2020; Pavkovic et al., 2017). The direct access beneficiaries are joined by their relatives, friends, work colleagues and others travelling with them, which travel group dynamics research suggests being, on average, between 0.5 and 3.2 companions for PwD (Darcy et al., 2020; Pavkovic et al., 2017). This data is significant because different studies (Devile et al., 2023; Devile & Moura, 2021; Hefny, 2024) identified that PwD regularly travel with companions, mainly family and friends, which could help negotiate the possible constraints, and increases spend per access trip.

Despite the significance of this group for the tourism sector, providers have generally not regarded the group as seriously as other market segments, such as seniors, where PwD face continued exclusion in tourism (Nazari et al., 2021). This situation is more pronounced in the private sector, which does not normally take measures/initiatives without legal compulsion (Nyanjom et al., 2018). People who do not meet the normalised ideal body (referred to as *lookism* or comparison with stereotypes established by society (Granleese, 2016)) experience discrimination and negative attitudes (Lee et al., 2017; Poria et al., 2021). Tourism industry bias in advertising imagery is well documented in general (Poria et al., 2021; Samuel & Pritchard, 2001) and is a "critical factor in understanding and managing the tourism experience" (Small & Harris, 2012:6). The situation is aggravated for PwD because they have generally been framed in research as homogeneous, with no account being taken of different disability types and different levels of support needs (Darcy & Buhalis, 2011), which creates more complex barriers for the industry to understand for these groups.

Based on these arguments, this study aims to provide an analysis of the components that make up accessible tourism value chain content information in terms of the provision of access content across all disability types, taking into account the quality and quantity of information available on NTO websites around the world. The research identifies, for the first time in the field, which components are present in content information, based on the accessible tourism value chain of the relevant NTO websites, and how they are grouped from theoretical and empirical perspectives. This data will enable NTOs to identify how the information on accessibility is available on the websites, how it is structured, what components are regarded as the most important and at which level they currently feature on their websites, considering the "growing interest and efforts directed towards disability and accessibility of tourism destinations" (Hartwell et al., 2018:1833).

By undertaking such an analysis, it will make it easier to identify improvements that could be carried out to help provide tourist access information for all groups, especially for PwD (Poria et al., 2021), where information and communication technology (ICT) supporting the accessible tourism value chain information needs to be better coordinated (Perkins et al., 2021). The assessment of access information on online platforms identifies a low level of reliability and without a standardised and consistent structure (Nigg & Peters, 2022), which is generally underestimated for accessible tourism, which limits the potential of artificial intelligence (AI) tools (Li et al., 2017). AI enables the use of intelligence for automation that incorporates technologies with cognitive, affective and analytical capabilities, competencies traditionally performed by humans (Tuomi & Ascenção, 2023). NTOs could take advantage of this market opportunity through managing AI based innovations to improve sustainable, inclusive and accessible tourism (Majid et al., 2023) based on greater standardization of the access content presented on NTO websites across the value chain (Connell & Page, 2019).

This article is structured as follows: first, an examination is made of the relationship between, and future evolution of, accessible and inclusive tourism; second, approaches to and how disability is conceptualised; third, the specifics of online information about the accessible tourism value chain required by PwD; fourth, the methodology is then discussed, the findings presented, followed by a discussion of the contributions to theory, the practical considerations for industry, limitations and conclusions drawn.

2. Theoretical framing: understanding accessible tourism through the opportunities of engaging with inclusive tourism

Different agendas now acknowledge the importance of PwD at social, economic and legislative levels, and that accessible tourism shares a relationship with the sustainable development paradigm (Cloquet et al., 2017), based on universal design and design for all. Agenda 2030 for example, incorporates the UN sustainable development goals (SDGs), which promote "social equality, economic growth and environmental protection" (Scheyvens & Cheer, 2021); moreover, the World Tourism Organisation (UNWTO) has proclaimed tourism as a catalyst for achievement of the SDGs (UNWTO, 2017). The UNWTO and the UN SDGs also recognised the importance of disability and accessible tourism from both a demand and supply side employment perspective as having appropriate, effective and efficient sustainability contributions (UNWTO, 2015a, 2015b) and in its COVID-19 recovery (Buhalis et al., 2023; UNWTO, 2020). Specifically, SDGs 1, 3, 9, 10 and 11 are directly linked to the aim of the present study (Buhalis et al., 2023). These studies emphasize the need for research to be undertaken into accessible and inclusive tourism as a new way of enacting social, economic and cultural changes based on the dual roles of accessible tourism in addressing human rights and economic progress (Benjamin et al., 2021).

In some accessible tourism literature, inclusive tourism is often referred to interchangeably with accessible tourism without understanding the definitions are interconnected, yet separate concepts (Münch & Ulrich, 2011). There is a clear distinction between the terms. Inclusive tourism is understood as "transformative tourism in which marginalised groups are engaged in ethical production or consumption of tourism and its benefits" with broad groupings, including children, seniors, the socio-economically disadvantaged, migrants, refugees and people facing issues related to health, gender, sexuality and, of course, PwD (Scheyvens & Biddulph, 2018; Schweinsberg & Darcy, 2022). Accessible tourism is more narrowly focused, being related to improving accessibility for PwD, and others with access needs, to provide more equitable, dignified and independent access to tourism experiences.

Accessible tourism involves stakeholders going through collaborative processes that enable people with access needs to function independently, equitably and with dignity, through the provision of universally designed tourism products, services and environments (Darcy & Buhalis, 2011).

There is a strong engagement of accessible tourism with inclusive tourism (Scheyvens & Biddulph, 2018), where people may have multiple marginalised identities with intersectional outcomes that create further complexity to environmental and attitudinal interactions (Chambers, 2022). However, other authors have questioned this commitment. Scheyvens and Biddulph (2018) argued that disability and accessible tourism is only part of inclusive tourism, which includes other socially and economically excluded groups. Nonetheless, the Scheyvens and Biddulph (2018) theoretical framing has the limitation that inclusive tourism, by addressing such broad groupings, may not pay enough attention to the accessibility needs of PwD (Gillovic & McIntosh, 2020) that needs to be a foundation in destinations before an equality of destination experiences can be provided (Darcy et al., 2020).

Based on this premise, Gillovic and McIntosh (2020) argued that Scheyvens and Biddulph's (2018) inclusive tourism conceptualisation provides an agenda that can be used by private and public bodies to design tourism products/services that meet the needs of PwD. This framework could be applied to connect inclusive tourism with accessible tourism, given that fundamentally, the aim is to include PwD in tourism and society. Specifically, Gillovic and McIntosh (2020) concluded that the participation of PwD as producers and consumers of tourism must be increased, as must their participation in decision-making to facilitate the transformation of power relations, reinvent destinations and to break down social barriers. Hence, the importance of approaching disability from a social perspective, leaving aside prejudices, and avoiding *ableism* (Kumari-Campbell, 2009; Nyanjom et al., 2018; Oliver, 2009). To achieve this there will need to be transdisciplinary collaboration of researchers and experts in the sector.

Thus, recent research into accessible and inclusive tourism is being undertaken jointly (Machado, 2020; Rolim et al., 2021; Ruiz et al., 2020), and new approaches have been taken that address (Liasidou et al., 2017) all the beneficiaries of "universal design" (Souca, 2010). Accessible tourism will always be more focused on terms of its access beneficiaries while acknowledging the intersectional elements that inclusive tourism introduces with other marginalised identities that compounds disadvantage. For this reason, approaching disability from the addition of an inclusive framework enhances and facilitates a social relational model of disability, including a person's other intersectional identities.

The present study uses the social model of disability, which underpins the United Nations (UN, 2006) *Convention on the Rights of Persons with Disabilities* (CRPD), as a framework (Darcy & Buhalis, 2011). Based on this model, "the disability is caused by three types of barriers: attitudinal, physical, and informational and communication" (Randle & Dolnicar, 2019:279). This last barrier, information and communication, is the focus of this research. The provision of adequate information enables PwD to make decisions for safe and accessible travel, which is also true for research examining dementia "friendly" destinations (Connell & Page, 2019).

3. Disability and online information provision

While the UN Manila Declaration (1980) contained commitments and obligations to promote non-discriminatory tourism, change was slow over the 1980s–1990s, with nations introducing their own disability legislation with varying effects. The UN CRPD (UN, 2006), with over 165 nation signatories, commits nations to monitor their progress across areas of social participation and citizenship. With respect to accessibility, Article 9 recognises the importance of transport, the built environment and ICT. Yet not all people can access the internet and, in some cases, there is direct discrimination of marginalised groups in society. Thus, it is essential to maintain a focus on those groups that require equity measures to address the discrimination they face. However, this digital disadvantage is accentuated due to the lack of appropriate information specifically addressing disability type and level of support needs (Darcy, 2010).

Among the main barriers that PwD encounter when travelling are problems accessing information (Lee & Gretzel, 2012). Tourists with disabilities need more information than people without disability when planning their trips (Devile & Kastenholz, 2018). Specifically, 30 % of PwD have indicated that a major issue is the accuracy of available information, in particular, information about accessibility (Bi et al., 2007; Bowtell, 2015). Indeed, 50 % indicated that they would travel more if they could be sure about access to facilities (European Commission, 2014). Hence, PWD's main sources of information comes through personal contacts including advocacy organisations, family and friends (Zajadacz, 2015), although the internet has provided an opportunity for improved access information through C2C sharing resources in recent years, particularly among groups with physical and hidden disabilities (Domínguez, 2008). The creation of social media communities can provide access information for the travel planning and decision-making needs of PwD (McKercher & Darcy, 2018). Clear examples are the case of apps, social media and blogs (e.g. www.vacayit.com/). The first facilitates information about venues and locations that are accessible (Altinay et al., 2016). The second, the travel blogs, are seen as a trustworthy source of information (Hefny, 2024; Tomej and Duedahl, 2023), although the bloggers recommend support from family and friends when PwD face travel constraints (Hefny, 2024). However, the internet contains barriers, among them being the lack of information quality, quantity, detail, precision and reliability (Domínguez Vila et al., 2020; Kusufa et al., 2022; McKercher & Darcy, 2018). PwD need the right information about the right place at the right time (Xiang & Fesenmaier, 2020).

Online resources and tools, such as NTO websites, have become key promoters of destinations (Ip et al., 2011; Law et al., 2010; Tang & Jang, 2008), and have established themselves as the most important first contact by consumers on tourism communication channels (Del Vasto-Terrientes et al., 2015; Fernández-Cavia & Huertas-Roig, 2009; Lee & Gretzel, 2012). Tourism/travel websites are often the starting point when people plan to travel. They now play a decisive role as providers of information about destinations, offering all that potential tourists need to make informed travel planning decisions (Luna-Nevarez & Hyman, 2012). This is where NTOs can take a leading role as destination managers to bring together "marketers, advocates, researchers, partners and economic catalysts" (Wang & Russo, 2007). NTO websites have evolved from being mere information providers to being persuasion tools (Fernández-Cavia & Huertas-Roig, 2009), and NTOs have assumed an increasingly important role as industry coordinators (Wang & Russo, 2007); using the internet to provide tourists with information, they can strengthen destinations' images and brands (Morrison, 2013). As Hefny (2024) concludes, NTOs as destination leads, should develop more purposeful websites that could assist PwD to plan their trips and even get help during their travel.

If NTOs are not providing information on accessibility or being accessible and inclusive by meeting the information needs of access beneficiaries, they are not being economically and socially sustainable with political agreements such as the Agenda 2030 and CRPD. Insufficient access to reliable and updated content on accessible tourism can lead to poor accessible destination experiences (Garrod & Fennell, 2023). Governments and NTOs should reserve sections on their official websites to provide access-related content information for PwD and beneficiaries of accessibility (Özogul & Baran, 2016). It is essential that work be done to raise awareness of the access-related information that exists on relevant web platforms, so that PwD can be well connected to society (Ara et al., 2023).

Considering two key elements, the lack of standardization in the different regulations that apply in different geographical areas, and the

heterogeneity of types of disability, require an 'inherent complexity' to access support needs (Florido-Benítez, 2023). NTOs can develop intermediary roles using information provided by PwD as feedback to improve products and services for this group (Rucci & Porto, 2022). With this information, NTOs can design websites that improve users' interactions and engagement and provide positive experiences (Fernandez-Diaz et al., 2021), because their websites have a role in both information provision to visitors and as a repository for destination collateral and knowledge (Connell & Page, 2019). NTOs should improve their efforts to communicate social campaigns to stakeholders to engage with the challenges faced by marginalised groups (Bornhorst et al., 2010; Connell & Page, 2019). The UNWTO recognises the importance of the governance roles that NTO and regional destination management organisations can play when they state, "A coordinated strategy is needed to establish the steps and priorities to follow, the goals to achieve, and the concrete measures to take" (UNWTO, 2015b:47). Thus, accessibility should be a pillar of public strategy and a possible way to improve smart destinations through accessibility being a pillar of the model, and to achieve this goal, the internet is key (Buhalis et al., 2023; Sizan et al., 2022).

4. Beyond technical access to websites to examining accessible tourism value chain content information

The tourism value chain has been defined as "individuals, organisations and firms involved in the tourism industry can be seen as nodes in a tourism value chain collaborating to co-create and co-deliver sustained value for tourists and at the same time generating profits for themselves" (Song et al., 2013 p16). Taking into account the key positions of governments in tourism value chains, the UNWTO has recognised the importance of accessible tourism value chains in creating value for PwD, the tourism industry, disability service providers and government coordinating organisations (UNWTO, 2015a).

To understand the accessible tourism value chain, it is necessary to understand the general tourist travel chain. The travel chain must consider aspects that directly influence the travel of PwD. Indeed, the WHO recognises the importance of a seamless travel chain, which includes "all elements that make up a journey, from starting point to destination - including the pedestrian access, the vehicles, and the transfer points" (WHO, 2012:179). In a tourism context, PwD are far more vulnerable than people without disability when travelling away from their homes and, thus, require a seamless trip through the accessible tourism value chain. The accessible tourism value chain summarizes all the key elements relevant to a wide range of stakeholders from national and regional tourism organisations, travel and tourism industry stakeholders, enterprises and organisations from the support sector, tourism destinations to end users based on *"ISO 21902: 2021 Accessible tourism for All"* (International Organisation for Standardization, 2021).

As was commented above, PwD, as end users, face attitudinal, built environment and information and communication barriers. The structural or environmental constraints based on the "complexity of destinations, the number of elements that interact as a part of the visitor experience and the large number and nature of the travel chain in the visitor journey" (Connell & Page, 2019:32) produce more complex constraints and barriers for PwD than people without disability (McKercher & Darcy, 2018). It is also important to highlight the developing literature examining 'embodied ontology' and the impact of 'impairment effects' that the social-relational model of disability highlights as feminist understandings have influenced disability studies (Darcy et al., 2020; Michopoulou et al., 2015; Nyanjom et al., 2018; Tomej & Duedahl, 2023), as incorporated in ISO 21902:2021. For all these reasons, information available on the internet (Wang et al., 2020) should make decision-making by tourists with disability easier (Eichhorn et al., 2008). Yet, content provision across the accessible tourism value chain has consistently been shown not to meet the needs of PwD and, hence, the need for this research on content provision of NTO websites.

There has been an increase in the number of studies examining the importance of information for tourists with disabilities (e.g., Akgül & Vatansever, 2016; Altinay et al., 2016; Daniels et al., 2005; Dinis & Breda, 2024; Hanes et al., 2017; Hefny, 2024; Randle & Dolnicar, 2019; Zhang & Cole, 2016), and, in the last decade, research into the technical accessibility of the web for tourism has increased exponentially (W3C, 2022). The UNWTO (2015a) has identified two major barriers to accessing information. The first derives from the characteristics of communication systems (hardware and software), that is, technical accessibility to the web. In this context, some very recent studies have examined different tourism activities, covering a large part of the accessible tourism value chain. For example, examinations have been made into the accessibility of travel agents' websites (Eusebio et al., 2020), online platforms (Branco et al., 2021; Fernández-Villarán et al., 2021), tourism information websites (Domínguez Vila et al., 2018, 2019, 2020), hospitality and accommodation websites (Teixeira et al., 2021, 2022; Wang et al., 2020), airline websites (Pant & Sinha, 2020) and heritage and museum websites (García-Santiago & Olvera-Lobo, 2018; Teixeira et al., 2020). These studies concluded that while many not-for-profit, public and private organisations make great efforts to provide accessible websites, and relevant regulations and guidelines do exist, many providers involved with accessible tourism value chain content information need to rethink their online accessibility strategies, mainly in relation to their compatibility with the assistive technologies used by PwD (e.g. screen readers and speech recognition), navigation, adaptation and alternatives to text.

The second barrier relates to content information (Hallet & Kaplan-Winger, 2010); few studies have been undertaken into the access content of the information provided for PwD on tourism websites. Cloquet et al. (2017) and Benjamin et al. (2021) focused on physical and online brochures, and marketing material of websites, about disability and accessibility, but did not analyse website content information typology and structure. Furthermore, they based their research on isolated geographic contexts in the UK (Cornwall) and the USA. Mobility Mojo (2020), analysing 1000 hotel websites, conducted a worldwide study into the quality of the accessibility information of 10 hotel groups. The main finding was that only 18 % of the hotels that had accessible rooms provided information about them on their websites. The offer of accessible rooms varied greatly by hotel group. Perhaps the most alarming fact is that, in general, the information provided by many hotels about accessibility was inaccurate and confusing, and none gave information on measurements or characteristics of their accessible rooms. In addition, it was found that while 35 % of the hotels did not post any accessibility information online, they did offer pet-friendly information. Benjamin et al. (2021) argued that this infers that pets are deemed as more important/valuable than PwD, suggesting that this is a stark example where PwD are denied substantive citizenship rights, as required under CRPD Articles 9 (built environment, transport and ICT) and 30 (that includes tourism).

Wang et al. (2020) analysed the accessibility of information targeted at PwD available on hotel websites, and its influence on people with limited mobility. To this end, these authors developed a web-based experimental design that offered subjects information relevant for PwD about accessibility, room measurements/specifications, and found that consumer satisfaction among this group increased when they did not have to telephone to confirm the room specifications, etc., and could simply book online. Fernández-Villarán et al. (2021) examined the accessibility-based information published on online platforms, taking content information criteria established by the UNWTO (2014), and concluded that on most platforms the information analysed was poorly presented; indeed, it often amounted to disinformation, given that it can be contradictory, unreliable, outdated and inaccurate. What can be concluded from these studies is that the quality (measured by the variables relevance, accuracy, comprehensibility and completeness) of information on accessibility posted online does not meet the needs of

potential beneficiaries of accessibility measures (Elling et al., 2012).

The UNWTO (2014) has stated that the criteria for providing access content information to access beneficiaries are credibility, visibility, updatedness, comprehensibility and completeness. Credibility is based on providing evidence to the user that information can be believed. This is usually based on the site being linked to states, regional entities or public bodies. Visibility relates to how easy it is for users to seek and find information on websites about access needs that facilitate visits and access to services at destinations. Updatedness relates to the currency of information about resources and is key where, for example, booking conditions change often and the refurbishment of rooms takes place on a regular basis (e.g. every five years for 5-star hotels), which may alter key access inclusions. Last, comprehensibility and completeness relate to the degree to which PwD can use an object, visit a place, or access a service using the available information, that is, their ability to access the relevant information.

The increasing functionality of the internet makes it easier for consumers to customise products and services by combining them through different interfaces (Xiong et al., 2009); hence, accessible tourism value chain content information should be analysed from a multi-faceted approach on the basis that information sought by users will vary according to their disability type and level of support needs (Buhalis & Darcy, 2011; Buhalis & Michopoulou, 2011; Darcy, 2010). The accessible tourism value chain is taken as a reference (UNWTO, 2015a; ISO, 2021); the chain is independent of origin and destination and may be subject to variations in the order of its individual elements (except first comes planning information about trips) (see Fig. 1). The accessible tourism value chain is made up of eight main elements, together with their requirements. This model is proposed as a starting point from which to analyse the content information on accessibility posted on official tourism websites.

5. Methodology

The objective of this study is to analyse the access content of information available across the accessible tourism value chain of all official NTO websites worldwide. Once this access content has been identified then it will also be assessed for the way that it is structured and presented across the NTO websites. To do so, the list of countries included in the UNWTO report is taken as a reference (2021). The starting population was 217 before applying exclusion criteria. The countries, and reasons for exclusion, were: North Korea (DPRK), Benin, Burundi, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Liberia, Mauritius and Niger, because they have no official links or domains; Syria, because its website uses only the local language; Iraq, Bosnia & Herzegovina, Mongolia and Turkmenistan because they use incompatible software or because the sites contain errors; and French Guiana, which redirects to the Metropolitan France website. Thus, the final population of the study was 198 NTOs (see Annex 1).

Once the countries and their respective websites were identified, keywords in English were established to conduct the information search. The terms used were disabled, disability, access, accessible, accessibility and accessible tourism (AT); these terms were selected because they are the most utilised by authors specialising in accessible tourism (Gillovic et al., 2018), based on a filter by title of the documents in the two most important scientific databases, SCOPUS and Web of Science (see Table 1). Added to the search were the key words "handicapped" and "paraplegic" because they are still used in some countries. Two methods were used to conduct the search. If the website had its own search engine, it was used, if not, the researchers browsed the website's tabs and used the search engine of the internet browser (in this case, Google Chrome).

When the outputs were linked and each term had been obtained, they were analysed and placed into different categories. A series of criteria were followed to structure and classify the information (see Table 2):

- **General country information**: used to contextualise the results according to country, that is, based on the importance to the country of tourism from economic, social and legislative perspectives, following other works in the area of accessible tourism (Domínguez Vila et al., 2015; Porto et al., 2019).
- **Type of accessible information**: the content criteria published by the UNWTO (2014) were followed. As to *credibility*, they are all official websites that share government domains; Kakol et al. (2017) found that official websites are seen as more credible. As to *visibility*, the vast majority of official NTO websites have search engines so, on the basis of the UNWTO criteria, sub-indicators were established to classify the information. This study decided to bring together the analysis of resource information and search facilities. *Updatedness* is not a dimension used habitually (Fernández-Villarán et al., 2021). Nonetheless, the dates of the output of the searches were included in the analysis, mainly dates linked to specific events, as when information is published is one of the variables through which this dimension is best visualised. To address *comprehensibility and completeness*, variables related to quality and level of web accessibility were established; these analyse level of technical accessibility to websites using the existing regulations (often based on whether the main page features a link to accessibility information) and the parameters/criteria of the Web Content Accessibility Guidelines (WCAG) sponsored by W3C. Simultaneously, assessments were made of the depth of the information, whether it had official certification, provided the opinions and experiences of other users, if it was

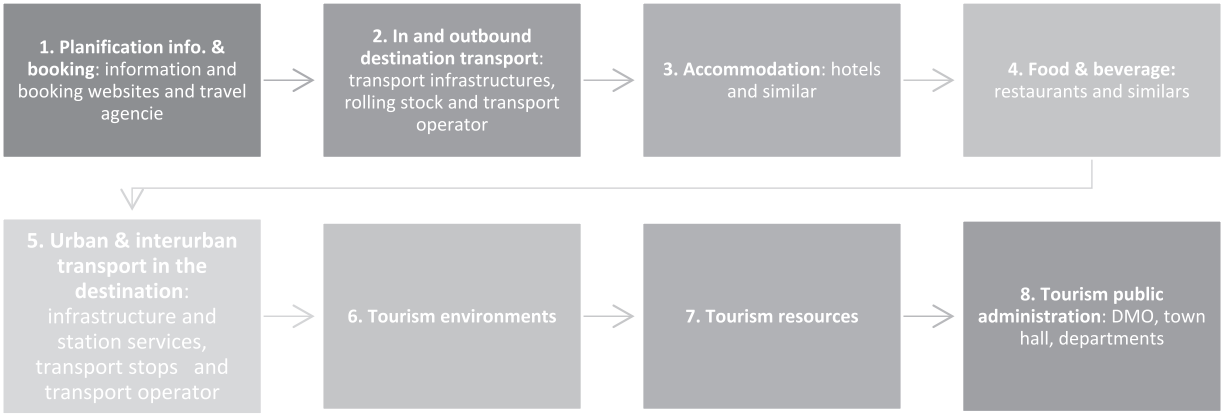

Fig. 1. Accessible tourism value chain elements according to the order of the indicators' study.
Source: UNWTO (2015b).

Table 1
Results by keyword search on Scopus and Web of Science databases.

	Disabled	Disability	Accessible	Accessible + tourism	Accessibility	Accessibility + tourism	Accessible tourism
SCOPUS	16,111	95,461	9039	175	8368	237	139
Web of Science	33,736	119,171	16,564	210	18,087	339	141

Source: developed for this study.

Table 2
Variables of the accessible tourism value chain for PwD in official national tourism organisation websites.

GENERAL INFORMATION ABOUT THE COUNTRY	**TYPE OF INFORMATION** ABOUT DISABILITY/ ACCESSIBILITY/AT	TOURISM WEB **RESOURCES INFORMATION** ABOUT DISABILITY/ ACCESSIBILITY/AT
Adherence to international treaties: Convention on the Rights of Persons with Disabilities: singer member (CRPD_SING) formal member (CRPD_FORM)	Certification about accessibility/disability (CERTIF)	Accommodation (ACCOM)
% people with disabilities of total population (PwD)	Information by typology of disability (TYPE)	Beaches, lakes and similar (BEACH&LAKE)
% of people +1 disability (PwD_1)	Level of "depth of information" (DEPTH)	Food and beverages (F&B)
% people with more than 65 years (SENIOR)	Link WCAG/accessibility in the homepage (HOME_PAG)	General Information about destination (GENER_INFO)
% total of international arrivals (INTER_ARRIVAL)	Link to another page with AT information (LINK_WEB)	Health care and treatments (HEALTH)
% total of national departures (NAT-DEPAR)	Menu or link about AT (MENU_AT)	Heritage and tourist sites (HER&SITE)
% of tourism activity in the gross domestic product (GDP)	Users' opinions and experiences (USERS)	Information about AT travel agencies (AT_AGEN)
	General browser (GEN_BROW)	Shopping (SHOP)
	Specific browser about AT (SPECIFIC_BROW)	Specific events (S_EVENTS)
	WCAG 1.0 criteria list (WCAG_1)	Sports and adventure (S&ADV)
	WCAG 2.0 criteria list (WCAG_2)	Transport (TRANS)
	WCAG 2.1 criteria list (WCAG_2.1)	Tours (TOUR)
	% of total of searches (all webs) (SEARCH)	Theatre, Cinema, Theme parks… (THEA&CINE)
	% of total valid/correct searches (SEARCH_VALID)	Routes (ROUTE)
	% of total searches by key word: disabled (DISABLED_SEARCH), disability (DISABILITY_SEARCH), accessible (ACCESSIBLE_SEARCH) accessibility (ACCESSIBILITY_SEARCH), accessible tourism (AT_SEARCH), handicap (HAND_SEARCH), paraplegic (PARAPLE_SEARCH)	

Source: developed for this study.

structured based on disability type and the levels of support needed, and its relevance for users with disabilities.

- **Tourism website resources:** the information on the accessibility of tourism resources was classified according to the elements of the accessible tourism value chain (UNWTO, 2015a).

When assessing these variables, some anomalous results were noted, and account was taken of these in the coding of the data. This was the case for countries where providers had, based on legislation, to give, for example, discounts to PwD, which distorted the results. Information on accessibility or improvements that were not useful for users was not categorised, nor was information provided in search engines that did not cover accessibility for PwD. Finally, links to websites with domains with information that could not be translated into languages other than that of the sponsoring country have been discarded (e.g., Taiwan).

The data collection was carried out between July and September 2022; thereafter, a content analysis based on the variables and sub-variables listed in Table 2 was undertaken, in which all valid search results were quantified numerically and nominally. The content analysis focused on determining the presence of words, themes or concepts within given qualitative data, which allowed us to quantify and analyse the variables and their meanings and relationships. Fernández-Cavia et al.s (2009) accounting method was used to measure the dimensions derived from applying content criteria to the access information on NTO websites, following similar research (Choi et al., 2007; Roney & Özturan, 2006). A factor analysis was used to reduce the large number of variables, extracting maximum common variance from all variables and putting them into a common score. This technique is highly recommended for investigating concepts that cannot easily be measured directly; "it is a statistical method that applies the values of an initial set of input variables, that are known to have mutual correlations, to create a smaller set of factors that describe underlying interrelationships and mutual variability" (Nettleton, 2014: 83).

6. Results and discussion

This section is divided into three separate parts that analyse the information of the different elements that compose the accessible tourism value chain. The first section analyses the sample with a descriptive analysis to answer how and what is the content information on accessibility available on the NTO websites. The second section is focused on how the content information on accessibility is structured on the NTO websites to identify similarities between all of them, which is assessed through a principal component analysis. Finally, a comparative analysis of the NTO websites that present the best examples of accessibility content information available is undertaken.

6.1. Descriptive analyses of the sample: how and what is the content information on accessibility on the NTO websites

An analysis of the 198 websites was carried out to examine the variables of the accessible tourism value chain content information proposed based on the theoretical framework (see Table 2). It should be noted that in the *General country information* block there is great dispersion in terms of the number of PwD, with percentages ranging from 0.6669 for Guinea, to 24.7605 for Iceland. On average, it was established that 9.22 % of the populations of the countries analysed had a disability, although this data is subject to variability based on the definitions and sources consulted, and the accuracy of the data. For example, the United Arab Emirates estimates that between 0.2 and 11 % of its population has a disability. In terms of legislation, 163 countries have made a formal confirmation, accession or ratification of the CRPD, and 149 have signed it. On the size, in GDP terms, of the tourism sector in each country, the percentages range from 0.02 % for Papua New Guinea to 84.43 % for the Turks and Caicos Islands. The data are conditioned by the percentage of international arrivals to the countries, with Spain leading with 6.18 %, followed by the USA, France and Italy, with 5.9 %, 5.79 % and 4.5 %, respectively.

An analysis of the *Type of information about accessibility/disability/AT* showed (see Table 3, below) that a very low percentage of the websites complied with the W3C regulations in terms of WCAG 1.0, 2.0 or 2.1 accessibility levels, not even among EU countries, where it is mandatory by regulation (Web Accessibility Directive EU 2016/2102). This trend is common throughout the sample, as only 13 websites have a specific

Table 3
Descriptive sample of official national tourism organisation websites analysed.

TYPE OF INFORMATION ABOUT ACCESSIBILITY/DISABILITY								
	HOME_PAG	WCGA_1	WCGA_2	WCGA_2.1	CERTIF	SPECIFIC _BROW	MENU_AT	USERS
N (% total)	16 (8.1 %)	3 (1.5 %)	9 (4.5 %)	3 (1.5 %)	5 (2.5 %)	6 (1 %)	13 (6.6 %)	16 (8.1 %)
	SEARCH	SEARCH_VALID	DISABLED_SEARCH	DISABILITY_SEARCH			ACCESSIBLE_SEARCH	
N (% total)	195 (98.5 %)	147 (74.2 %)	165 (83.3 %)	163 (82.3 %)			176 (88.9 %)	
Sum	91,708	70,733	6191	5179			38,265	
Mean	470.30	481.18	37.52	31.58			217.41	
St. Deviat.	2388.23	4554.59	223.85	219.74			1217.84	
Variance	5,703,655.60	2.074E7	50,110.34	48,289.3			1,483,153.53	
	ACCESSIBILITY_SEARCH		AT_SEARCH	HAND_SEARCH			PARAPLE_SEARCH	
N (% total)	165 (83.3 %)		161 (81.3 %)	12 (6.2 %)			12(6.2 %)	
Sum	25,445		16,557	6			6	
Mean	154.21		102.84	0.5			0.5	
St. Deviat.	1004.28		728.35	0.674			1.446	
Variance	1,008,580.13		530,503.52	0.455			2.091	
TOURISM WEBSITE RESOURCES INFORMATION ABOUT ACCESSIBILITY/DISABILITY								
	ACCOM	BEACH&LAKE	F&B	GENER_INFO	HEALTH	HER&SITE	AT_AGEN	
N (% total)	44 (22.2 %)	18 (9.1 %)	20 (10.1 %)	32 (16.2 %)	13 (6.6 %)	37 (18.7 %)	6 (3 %)	
Sum	4741	492	1826	55	106	1989	9	
Min-Max	1–984	1–208	1–812	1–8	1–37	1–479	1–3	
Mean	107.7	27.33	91.3	1.72	8.15	53.76	1.5	
St. Deviat.	223.13	51.98	188.59	1.442	12.52	111.644	0.837	
Variance	49,789.5	2702	35,531.9	2.080	156.8	12,464.467	0.700	
	SHOP	S_EVENTS	S&ADV	TRANS	TOUR	THEA&CINE	ROUTES	
N (% total)	20 (10.1 %)	17 (8.6 %)	26 (13.1 %)	30 (15.1 %)	12 (6.1 %)	17 (8.6 %)	19 (9.6 %)	
Sum	159	92	385	265	1501	114	1878	
Min-Max	1–41	1–52	1–135	1–76	1–1334	1–52	1–1334	
Mean	7.95	5.41	14.81	8.83	125.08	8.47	98.84	
St. Deviat.	11.825	12.243	28.721	17.130	381.076	16.016	304.448	
Variance	139.839	149.882	824.882	293.454	145,218.811	256.515	92,688.363	

menu or link to accessible tourism or disability related tourism (6.6 %), or certificates linked to the activity (2.5 %). Thus, in most of the websites, the information seeker has to use the general search engine because there is no specific link or search engine. In reference to the searches, of the 91,708 outputs obtained based on the key words listed in Table 1, more than 70,000 were valid, which reduced the sample from 195 websites to 147, which sets the range of the destinations that PwD can use to carry out any type of travel planning. The terms with the most

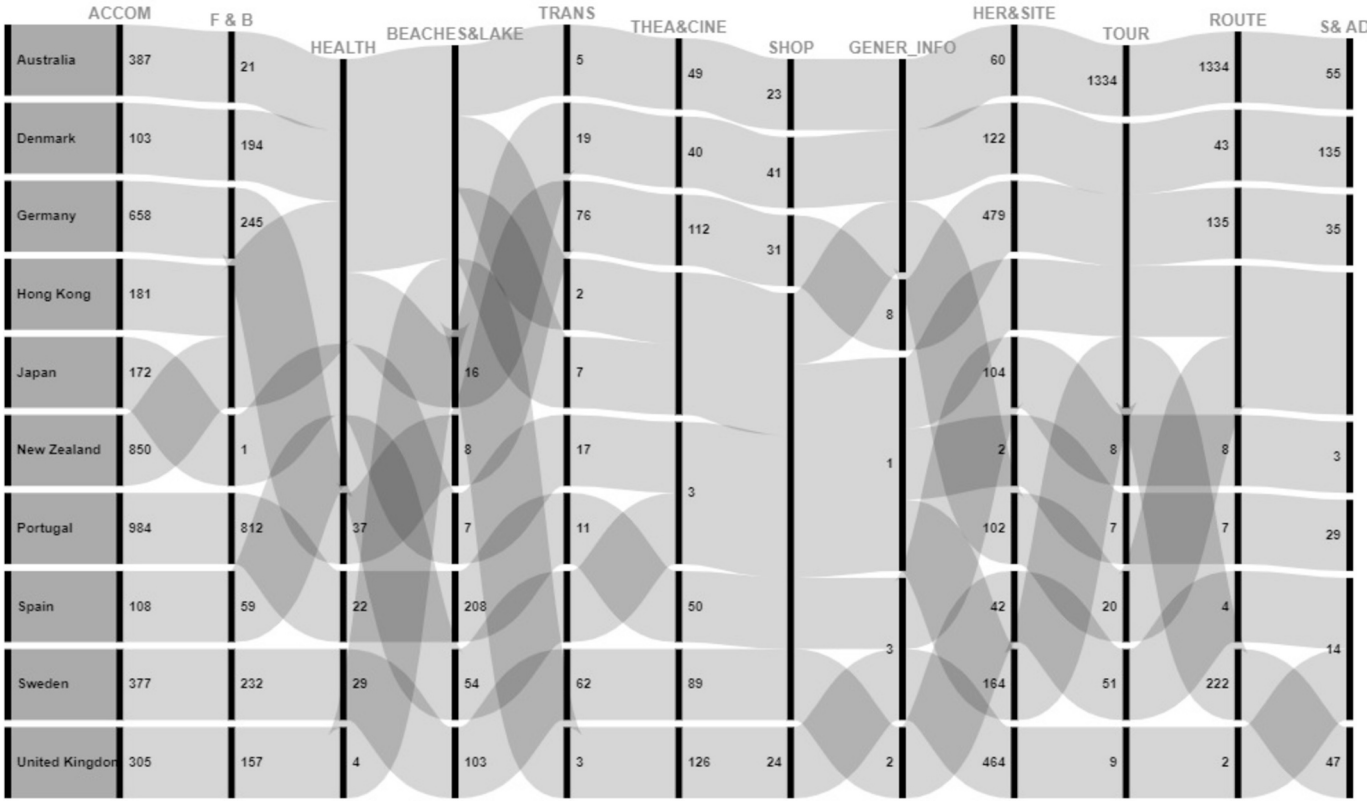

Fig. 2. Tourism website resources information of the accessible travel and tourism trip information chain of the top-10 world official tourism websites.

searches were "accessible" and "accessibility", which are used in other, non-disability contexts, followed by "accessible tourism". Next came "disabled" and "disability", "handicapped" and "paraplegic". As reflected in their research Leiras and Caamaño-Franco (2023), suggest that tourism stakeholders and policymakers should standardise their vocabulary about accessibility and disability in communication and operational strategies.

In the analysis of the *Tourism web resources information about disability/accessibility/AT* block, accommodation (22.2 %), heritage and tourist sites (18.7 %), general country information (16.2 %) and transport (15 %) were the most prominent concepts, although only 45 websites presented information about them. Accordingly, this supports Daniels et al. (2005) research that showed structural or/and environmental constraints in the accommodation, attractions and transportation services of accessible tourism. This is a very small percentage, which, in turn, does not fully recognise the extent of the problem, as not all websites offer information about all resources, which reflects a lack of accessible content information (Hefny, 2024). For example, only six of the 198 websites had information on accessible tourism agencies, which is significant because, as noted previously, people without disability use travel agencies much more than do PwD.

There is information about the different elements of the accessible tourism value chain but only a few websites have information about all the elements (see Fig. 2). The information available is focused mainly on accommodation (Darcy & Pegg, 2011), tourism activities and transportation (Daniels et al., 2005; Hefny, 2024).

6.2. A principal components analysis: how is the content information on accessibility structured on the NTO websites

A principal components analysis identified the accessible tourism value chain content information of the official NTO websites and how it was grouped. As can be seen in Table 4, the model excluded a few variables because they were not significant, for example, the "percentage of people with more than one disability", and "people over 65 years of age", in the *General country information* block. In the *Tourism web resources information* block the variables "specific events" and "information about AT travel agencies", and in the *Type of information* block the searches by the terms "handicapped", "paraplegic" and "inclusive tourism", were not represented.

Table 4
Factors of proposed model of the main accessible tourism value chain content information of official tourism websites.

PROPOSED MODEL				
	Factors	Cronbach's alphas	Variance Explained	Sig
GENERAL COUNTRY INFORMATION	Disability and tourism country information	−0.165	59.689	0.000
	Disabled legal framework	0.719	59.492	0.041
TYPE OF INFORMATION ABOUT DISABILITY/ ACCESSIBILITY	Quantity of information	0.894	87.799	0.000
	Quality of information	0.718	55.239	
	Search facilities	0.709	77.396	0.000
	Level of web accessibility and certification	0.608	86.799	0.000
TOURISM WEB RESOURCES INFORMATION ABOUT DISABILITY/ ACCESSIBILITY	Basic resources information	0.91	78.946	0.000
	Complementary resources information	0.899	71.86	0.000
	Augmented resources information	0.806	73.911	0.004

Based on the results of the factor analysis, nine factors, with their corresponding sub-factors, were extracted from the three blocks of the proposed model. In general, to be considered acceptable the internal reliability of scales must have Cronbach's alpha values of between 0.6 and 0.8 (Muñiz et al., 2005; Nunnaly, 1978), as is the case with this study. There was a problem with the reliability of the factor "Disability and tourism country information". When the measures were unified and transformed into percentages to homogenise and to analyse them statistically, the resultant percentages were very diverse. They vary because definitions of disability vary by country, but our overall perspective of PwD and tourism is based on global totals, not segmented by country. PwD were quantified as a percentage of the population of each country, whereas INTER_TOUR refers to the world total. While the factor "Level of web accessibility and certification" has the lowest value, it is within the parameters established for validation. Similarly, the factor loads are above 0.6 and 0.7, with the exception of "General browser", thus, confirming the validity and robustness of the scale applied to measure the accessible tourism value chain of NTO websites.

Next, an analysis was made of the different links of the information chain and their patterns of behaviour. In the *General country information* block the results followed a pattern, with the two factors "Disability and tourism country information" and "Disabled legal framework", in which variables such as ageing, number of disabilities and the importance of tourism to the country's GDP, were not representative. Four factors were established in the *Type of information about disability/accessibility/AT* block: "Quantity of information", "Quality of information", "Search facilities" and "Level of web accessibility and certification". About 40 % of the theoretically established variables were not representative of the model: CERTIF, USERS, GEN_BROW, WCAG_1, WCAG_2.1, SEARCH VALID, HAND_SEARCH, PARAPLE_SEARCH and INCL_SEARCH. Finally, in the *Tourism web resources information about disability/accessibility/AT* block, three factors related to the dimensions of the product, that is, "Basic resources information", "Complementary resources information" and "Augmented resources information".

"Basic resources information" grouped the attributes of the sub-factors, which are similar to the satisfaction of Maslow's basic and physiological needs (eating, sleeping, health) (Poria et al., 2021), with one of the most important, for PwD, tourist attractions of destinations - beaches and water attractions (see Table 5). While beaches and water attractions may not, on the face of it, seem to be basic needs, 56 % of Spanish travellers with access needs identify them as important, and they represent 29 % of their tourist trips (Spanish Accessibility Tourism Observatory, 2017); thus, beaches and water attractions are seen as a basic attribute of the overall tourism product. The second factor, "complementary resources", includes the sub-factors general destination information, and data about transport, culture and leisure time activities, shopping and heritage and tourist sites, similar results to Daniels et al. (2005) and Hefny's (2024) research. The last phase, "augmented resources", addresses information about tours, routes and sports and adventure activities, which are also included in Dickson et al.'s (2017) research.

Contrary to logic, the countries that receive the largest number of tourists, and the countries that have the highest percentage of PwD, are not exemplars in this area. Both these groups of countries could perform better in terms of accessibility in "Levels of web accessibility and certification". Even the existence of regulations, as in the case of European Union countries, with their mandatory application of the WCAG 1.0 standards, is no guarantee of compliance (Web Accessibility Directive EU 2016/2102). The various software and hardware improvements that have been carried out so that PwD can access information online should be adapted to take account of disability type (Buhalis & Michopoulou, 2011). The same is the case for the type of accessible tourism value chain content information available on websites. The requirements to address PwD with visual and hearing impairments visiting a museum are significantly different (Fortuna et al., 2023). As has been observed, in most cases PwD continue to be treated as a homogeneous segment, with

Table 5
Attributes of the sub-factors of proposed model of the main accessible tourism value chain content information of official national tourism organisation websites.

SUB-FACTORS OF PROPOSED MODEL					
Attribute Label of the Main Factors	Attribute Label of the Sub-factors	Comp. Matrix	Attribute Label of the Main Factors	Attribute Label of the Sub-factors	Comp. Matrix
	GENERAL COUNTRY INFORMATION			TYPE OF INFORMATION ABOUT DISABILITY/ACCESSIBILITY	
Disability and tourism country information	PwD	0,787	**Quantity of information**	SEARCH	0,928
	INTER_TOUR	0,748		DISABLED_SEARCH	0,874
Disabled legal framework	CRPD_SING	0,866		DISABILITY_SEARCH	0,917
	CRPD_FORM	0,886		ACCESSIBLE_SEARCH	0,873
	TOURISM WEB RESOURCES INFORMATION ABOUT DISABILITY/ACCESSIBILITY			ACCESSIBILITY_ SEARCH	0,935
	ACCOM	0,748			
Basic resources information	F&B	0,916		AT_SEARCH	0,995
	HEALTH	0,676		GEN_BROW	0,499
	BEACH&LAKE	0,963	**Quality of information**	LINK_WEB	0,777
	TRANS	0,769		DEPTH	0,846
Complementary resources information	THEA&CINE	0,782		TYPE	0,828
	SHOP	0,753	**Search facilities**	SPECIFIC_BROW	0,885
	GENER_INFO	0,779		MENU_AT	0,837
	HER&SITE	0,877		HOME_PAG	0,921
	TOUR	0,961	**Level of web accessibility and certification**		
Augmented resources information	ROUTE	0,951		WCAG_2	0,932
	S&ADV	0,529			

similar needs, with the available information being mainly focused on those with physical and/or mobility disabilities, in the same way that the research on accessible tourism normally focuses on people with physical/mobility disabilities (Gassiot, 2016). In the same way that tourism agents continue to fail to provide accurate information about specific requirements, focusing more on general advice that has led to a lack of trust between PwD and using their services (Mckercher et al., 2003), the provision of access content by most NTO is not meet the requirements of PwD. The information available, for the most part, does not take into account the different types of disability (mobility, visual, hearing, cognitive, psychosocial etc.) and PwD's level of support needs (see Darcy, 2010) and, therefore, tends to be general and lacking depth and detail with the exception of Japan, Germany, Sweden and the United Kingdom (see Fig. 2).

There is no consistent structure to the accessible resources presented on the NTO websites, and, in general, these are not user-friendly websites (Dinis & Breda, 2024), reinforcing the idea that there are more complex constraints and barriers for travellers with disabilities than people without disability (McKercher & Darcy, 2018). The problems start with the search words and their lack of precision in the NTO websites searches, which is enhanced by the lack of standardised vocabulary (Leiras & Caamaño-Franco, 2023), followed by the structure of the information provided on the pages of the website (Domínguez Vila et al., 2018), and the accuracy, clarity and updating of information (Bi et al., 2007; Bowtell, 2015; Elling et al., 2012).

A key solution involves establishing standardised and homogeneous variables across NTO websites, enabling the generation of big data that can refine AI and IoT algorithms (Domínguez Vila et al., 2024; Li et al., 2017). By improving the uniformity, consistency and comparability of accessibility information for PwD, generative AI driven innovations could foster a more sustainable, inclusive, and accessible tourism (Majid et al., 2023), by offering both on-site and virtual opportunities (Neumman & Mason, 2023). Moussawi and Koufaris (2019) emphasize AI's ability to enhance personalization, autonomy, and adaptability in tourism services, which directly contributes to improved user experiences. Similarly, Yuan et al. (2019) highlight how AI, IoT and big data make it a critical tool for addressing accessibility and inclusivity issues and, therefore, creating a more tailored accessible and inclusive tourism experiences across disability type (Ling et al., 2023).

6.3. Comparative analysis Top-10 NTO websites with the best resources of content information on accessibility

The population of the study was 198 NTOs, and the analysis identified the best results for accessible information content across the accessible tourism value chain based on the number of available content information chain resources, specifically focused on the quantity and quality of resources offered and the total elements of the chain covered. Australia, Denmark, Germany, Hong Kong, Japan, New Zealand, Portugal, Spain, Sweden and the United Kingdom (see Fig. 2) were the best websites. In general, and in line with previous results, it can be said that both, the quantity and quality of information available, is limited, and the focus is mainly only on the key elements of the accessible tourism value chain, that is, accommodation, heritage and tourist sites, general information and transport (Daniels et al., 2005; Hefny, 2024; Poria et al., 2021).

The search for accommodation is the main element in the planning phase of tourist trips (Worsfold et al., 2016), and this is reflected in the present study, given that this topic produced the most results. However, PwD and particularly those with mobility issues want more than just basic information about reservations and availability (Darcy, 2010; Leung et al., 2013); they need specific and detailed information about the accessibility of rooms and buildings. The reality, as reported by Guerra (2003), is that PwD still cannot access enough information. According to Mobility Mojo (2020), even when providers offer accessible rooms, they do not always provide images or details about type, measurements and characteristics, and thus run the risk of creating a negative experience for the consumer if they book and their expectations are not met, or of letting sales escape if the information does not allow potential visitors to make informed purchasing decisions. The more content that is provided, the greater the possibility of the tourist making an informed choice that moves him/her from the planning stage to making a booking and satisfying his/her expectations of his/her hotel room (Wang et al., 2020).

Transport and tourist attractions are two elements of great importance for the sample analysed. The first, transport, focuses on specialised vehicles and on general guidelines and regulations related to mass transit. Clery et al. (2017) indicated that disability, and degree of disability, are associated with more frequent use of one mode of transport over others. The air transport industry has worked to improve the services for PwD together with the information about the procedures and assistance provided (Hansard, 2016). However, as indicated by different studies with more than a decade apart, the air travel sector

continues to fail in its operations provision for PwD no matter the amount of access content provided (Poria et al., 2009; Darcy et al., 2022; Small, 2022). There are limits based on the range of information different airlines make available, the procedures of boarding, security and use of services (Hefny, 2024), possible barriers that low-cost carriers put in the way of PwD, and the attitudes of airline staff and other passengers (Palmeira, 2014). Low-cost airlines do not really provide equitable opportunities for this group and, as a result, they tend to face higher prices as they need additional assistance, carry more luggage and need flexible tickets, among other aspects (Small, 2022), which is often at odds with the local legislation (CRPD, UN, 2006).

Despite, heritage and tourist sites having a high number of accessible information resources in the top 10 websites analysed, most NTO websites still provided limited to no information. PwD are often unable to enjoy the full experience because of both because of problems at the tourist attractions themselves and because of the process of accessing them (such as problems with transport to arrive at the attraction, or the urban architecture at the destination) (Poria et al., 2009). Another important element is access to natural and national park settings, in terms of routes, tours, sport and adventure and other activities. Taking again the Swedish example, the Swedish Environmental Protection Agency (2015) is working on existing barriers and on identifying the motivations of PwD to access outdoor activities (Burns et al., 2009). Again, emphasising that this group is very diverse, focusing on technical solutions without taking into account the attitudes and perceptions of the various social stereotypes towards PwD, will not provide real solutions (Burns et al., 2009). A possible solution to improve these resources could be the use of AI and enhanced tourism interpretation technology to provide a better experience for travellers with disability on site and virtually (Avni et al., 2022; Neumman & Mason, 2023).

It can be said, then, that the accessible tourism value chain content information of NTOs' official tourism websites is insufficient, as supported by other assessments of online accessible information (Kusufa et al., 2022; Randle & Dolnicar, 2019; Hefny et al., 2024), to allow the proper functioning of the relevant webpages and webpage links, which breaks the travel and value chain. Some websites include information about all relevant elements (links of the chain) but do not include information about all the sub-elements (see Fig. 2). For example, information might be included about cultural activities, but not about specific programming. The best webpage examples of accessible tourism value chain content are found: in Europe, Germany, Portugal, Sweden and the United Kingdom; in the Asia-Pacific region, Australia, New Zealand, Japan and South Korea; in the Americas, Bermuda; in Africa, Reunion; and Dubai in the Middle East. Of all countries, special mention should go to Portugal for the quantity of content information about the resources offered, to Japan for the quality and depth of the information about its resources, to Sweden, which provides sufficient, good quality information across all the elements of the accessible tourism value chain content information, and to the United Kingdom with a wide range of tools. However, our examination leads us to conclude that in the vast majority of NTO websites, the accessible tourism value chain proposed by UNWTO (2015b) exists only on paper and lacks operationalisation by the majority of NTOs.

7. Conclusions

7.1. Theoretical contributions

Kling and Ioannides (2019), who carried out a review of the then-existing literature on accessibility in tourism, concluded that demand among PwD for travel/tourism has increased due to the world's ageing population (with resources to travel) and the growing number of active PwD in society (Devile & Kastenholz, 2018). It should be highlighted that this study showed a clear predisposition towards the consumer perspective, putting the government offer in a secondary role. This approach is inconsistent with the potential growth of the PwD market and reflects the lack of interest displayed by providers of tourist services (Darcy, 2010; Nigg & Peters, 2022; Scheyvens & Biddulph, 2018). Socially, there has also been a significant lack of attention paid to this group even though the CRPD specifically identifies travel and tourism as a human right for PwD under Article 30.

In addition to Agenda 2030, the UN CRPD (UN, 2006) through Article 9, recognises the importance of access to ICT, even though there are many examples of direct discrimination of PwD highlighted by complaints and legal cases identifying the barriers that are still evident. This situation is accentuated by the lack of appropriate information for the group, which is substantially more complex information than people without disability require when planning their trips (Devile & Kastenholz, 2018). The tourism industry digitalization generates an inconsistency of information platforms due to a lack of uniformity, and it is difficult for groups such as PwD and beneficiaries of accessibility to find information relevant to their particular accessibility needs (Nigg & Peters, 2022). PwD have to negotiate internet constraints and barriers such as the lack of content information quality, quantity, detail, precision and reliability (Domínguez Vila et al., 2020). Additionally, the research available shows a lack of compatibility with assistive technologies used by PwD for navigation, adaptation and alternatives to text (Domínguez Vila et al., 2018; Teixeira et al., 2021). Although there have been an increasing number of studies on accessibility and disability in tourism and tourism information available through the internet, the majority are focused on technical website compliance (e.g. W3C) of accessibility, rather than on the content of access information across the accessible tourism value chain.

There is a need to standardise the content information of the accessible tourism value chain for the benefit of the tourism industry and PwD alike. The analysis of the worldwide NTO websites reveals that the content information is organised into three blocks: general country information, type of information and tourism web resources. The main focus is on accommodation, tourism activities and transport information, aligning with current research findings (Hefny, 2024). Between 30 and 40 % of variables proposed to test the theoretical model were not representative, mainly for the first and second block: general country information and type of information. The model resulting from the analysis shows a clear disposition of the NTO websites to have accessible content information focused on the block of tourism web resources. The variables in this block are the most representative and can be categorised into three factors, corresponding to the three product dimensions: basic, complementary and augmented resources information. This situation implies a lack of effort by the NTOs with respect to other relevant content information factors such as quality, quantity and/or search facilities. In the first case, the quality presents a lack of depth of information and structure based on different typologies of disability (Fortuna et al., 2023). Second, the quantity principally is focused on tourism web resources, as was noted previously, with a clear bias for people with mobility disability. Finally, search facilities involve problems with standardised vocabulary about accessibility and disability (Leiras & Caamaño-Franco, 2023), and a lack of specific search browsers for AT.

The structure of the major websites is inconsistent and not user-friendly, supporting the theoretical findings from recent research including Dinis and Breda (2024). An example of this inconsistency is that even the top 10 websites analysed presented limited content information on accessibility and disability (Kusufa et al., 2022; Hefny, 2024), breaking the accessible tourism value chain at some point. The NTO websites are not structuring content information on accessibility and disability in a similar way, and for this reason, the different technologies, such as the AI tools, are not taking advantage of the synergies to produce new information with similar results based on the same rules, standards and recommendations regardless of the destination for which information is sought. NTOs could use the findings of this research to organise and group information, designing the front-end websites in the same blocks (general destination and tourism resources information).

Websites should be redesigned using support information tools as either general and specific accessible tourism browsers, including a specific menu of accessible tourism, or linking to another website specialising in accessible tourism information for the different typologies of disability and technical accessibility within the standards of WCAG2. The NTOs have a market opportunity to manage the online ICT tools to work towards sustainable, inclusive and accessible tourism (Majid et al., 2023). Inclusivity and accessibility are essential components of sustainable tourism, contributing to social, economic and cultural changes that enhance human rights and economic progress (Benjamin et al., 2021).

7.2. Practical implications

Government NTOs and tourism businesses have not adequately addressed the needs of PwD and beneficiaries of accessibility, resulting in their exclusion from many everyday contexts and activities (Palacios, 2008). Effectively, in economic and social terms, this represents a 'market failure' with academic and daily news sources consistently pointing to the lack of a strategic and systematic approach to addressing the needs of PwD from a tourism industry perspective. As outlined in the findings and specifically taking into account the growing role played by the internet and online information (Altinay et al., 2016; Benjamin et al., 2021; Chang et al., 2021; Hefny et al., 2024, Melian et al., 2018; Nigg & Peters, 2022; Randle & Dolnicar, 2019). When market failure occurs governments, in their coordinating role, should provide guidance to NTOs to improve the quality of access content as outlined in the findings (see Kling & Ioannides, 2019). For example, for people who are blind with guide dogs the type of access content requires "cooperation between national/regional governments and tourism stakeholders… to develop and promote customised tourist services" and ensure accessibility is based on interoperability and management by governments, NTOs and stakeholders (Florido-Benítez, 2023:720).

Nevertheless, NTO websites do not provide enough access content information. Specifically, they often present a different reality than what PwD and their travel party experience with elements of the accessible tourism value chain and tourism system (Hefny, 2024; Leiper, 2003). One of the main barriers they face when travelling is the lack of information (Connell & Page, 2019; Daniels et al., 2005; Eichhorn & Buhalis, 2011; Xiang & Fesenmaier, 2020). Tourism staff and agencies are also not equipped to provide accurate information (Palmeira, 2014; Poria et al., 2021) and often act as travel inhibitors rather than as facilitators. Different disability types (e.g. mobility and vision impaired) need more detailed, accurate and precise information but, as this study shows, this is not what most NTOs are currently providing. Quite simply, NTOs are not offering accessible content information that PwD consumers seek to plan their trips, based on disability type and their level of support needs, in order to make an informed consumer choice (Darcy, 2010). These results further support recent research on accessible information on the internet (Hefny, 2024; Nigg & Peters, 2022; Randle & Dolnicar, 2019). Currently the internet is an important and primary source of information for travellers, including PwD; therefore, "it is imperative to develop adequate information channels and use online platforms to communicate destination accessibility" in an appropriate, effective and efficient manner (Dinis & Breda, 2024:239).

The accessible tourism value chain content information, that is, the tourism resources, should enable potential beneficiaries to obtain sufficient information to travel locally, regionally and internationally. If there is a discontinuity between elements of the accessible tourism value chain and/or in their interrelationships, this study shows they act as inhibitors to travel through creating inaccessible environments and exclusionary service settings for PwD seeking to make informed travel planning decisions (UNWTO, 2014). Buhalis and Michopoulou (2011) described the solution that is required as being a "one-stop-shop" where PwD can access all tourism resources, with the whole of journey information to make travel planning seamless.

Supporting the results of this research, Florido-Benítez (2023) concluded that NTOs are not fulfilling their responsibilities under the CRPD and UN SDGs. The scarcity of economic resources, lack of active coordination between the public and private sectors, the challenge of effectively integrating accessibility into strategic plans across all business units, shortages of training resources, normative disparities, the tangible and intangible barriers in some businesses and of whole tourism sectors towards disability, as well as negative perceptions of PwD and accessibility held by some businesses and industry sectors, combine to prevent NTOs fully integrating accessibility content into tourist offers (Rubio, 2021). Comprehensive and recommended initiatives are already in place, as in the case of ISO 21902:2021, but remain guidelines rather than compulsory requirements. Portugal, for instance, has established accessibility criteria in the tourism sector, which led to its recognition as the first country awarded Accessible Tourist Destination status by the UNWTO in 2019. Part of this success involved compulsory training of employees in the NTO and across tourism industry sectors, creating accessible content for tourism routes across the country, promoting accessible offerings, integrating training into tourism schools and positioning Portugal as an "accessible and inclusive destination for all", was based on a specific funding programme launched to support accessibility projects in tourism (Tourism Innovation Summit, 2019). Other good examples across the accessible tourism value chain are Sweden, Japan and the United Kingdom.

Moreover, research is needed on the comprehensibility and completeness of online information, as well as on the effectiveness of the offerings made (Wang et al., 2020). There are serious problems with visibility, correctness and completeness and, to a lesser extent, with the updatedness of the information available on the NTO websites analysed. The standardization of content format of online information, preparation and distribution through consistent templates across the accessible tourism value chain could help improve user access and experience (Domínguez Vila et al., 2024). Further, depending on the type of disability, website programmers and NTO managers should also be educated and trained in assistive technology, such as screen reader software, voice to text speech recognition and others, to assist in ease of operation for PwD (Randle & Dolnicar, 2019). These technological innovations can provide tourism managers with tools to enhance service delivery, support social equity, and contribute to sustainable tourism practices (Majid et al., 2023).

7.3. Limitations and future research

Based on the findings of this work, future research could be focused on design tools that can use all this information to create new, current and reliable web content and facilitate NTO integration of accessibility information across all components of the accessible tourism value chain. The research team will look for further opportunities to link with the UNWTO and individual NTO to operationalise the theoretical and practical outcomes of this research. It should also be noted that the results of this work are limited by the data collection method, as indicated in the methodology section, and in Annex 1, and by the variability of the data, since websites are constantly being updated. Lastly, outside of NTO websites, we are seeing a global emergence of entrepreneurial tech startups (e.g. https://www.vacayit.com/) that are addressing access content across the accessible tourism value chain that is a largely an unexplored area of research that complements the findings of this study.

CRediT authorship contribution statement

Trinidad Domínguez Vila: Writing – review & editing, Writing – original draft, Supervision, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Simon Darcy:** Writing – review & editing, Writing – original draft, Supervision, Investigation, Conceptualization.

Declaration of competing interest

None.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.tmp.2024.101332.

References

Akgül, Y., & Vatansever, K. (2016). Web accessibility evaluation of government websites for people with disabilities in Turkey. *Journal Advantage Management Sciences, 4*(3), 201–210.

Altinay, Z., Saner, T., Bahçelerli, N. M., & Altinay, F. (2016). The role of social media tools: Accessible tourism for disabled citizens. *Journal of Educational Technology & Society, 19*(1), 89–99.

Ara, J., Sik-Lanyi, C., & Kelemen, A. (2023). An integrated variable-magnitude approach for accessibility evaluation of healthcare institute web pages. *Applied Sciences, 13*(2), 932.

Avni, N., Moser, S., & Gorgy, G. (2022). Gendering gray space: Everyday challenges, strategies, and initiatives of women community leaders in East Jerusalem. *Social & Cultural Geography, 25*(1), 49–67.

Behsudi, A. (2020). Wish you were here. *Finance & Development, 57*(4), 36–39.

Benjamin, S., Bottone, E., & Lee, M. (2021). Beyond accessibility: Exploring the representation of people with disabilities in tourism promotional materials. *Journal of Sustainable Tourism, 29*(2–3), 295–313.

Bi, Y., Card, J. A., & Cole, S. T. (2007). Accessibility and attitudinal barriers encounteredby Chinese travellers with physical disabilities. *International Journal of Tourism Research, 9*, 205–216.

Bornhorst, T., Brent Ritchie, J. R., & Sheehan, L. (2010). Determinants of tourism success for DMOs & destinations: An empirical examination of stakeholders' perspectives. *Tourism Management, 31*(5), 572–589.

Bowtell, J. (2015). Assessing the value and market attractiveness of the accessible tourism industry in Europe: A focus on major travel and leisure companies. *Journal of Tourism Futures, 1*(3), 203–222.

Branco, F., Pereira, L., Gonçalves, R., & Martins, J. (2021). Web accessibility on online platforms for the tourism sector in Portugal. In *16th Iberian conference on information systems and technologies, 23–26 June. Chaves, Portugal*.

Buhalis, D., & Darcy, S. (2011). *Accessible tourism. Concepts and Issues. Aspects of tourism, Channel View*. Bristol: Publications.

Buhalis, D., Leung, X. Y., Fan, D., Darcy, S., Chen, G., Xu, F., … Farmaki, A. (2023). Tourism 2030 and the contribution to the sustainable development goals: The tourism review viewpoint. *Tourism Review, 78*(2), 293–313.

Buhalis, D., & Michopoulou, E. (2011). Information-enabled tourism destination marketing: Addressing the accessibility market. *Current Issues in Tourism, 14*(2), 145–168.

Burns, N., Paterson, K., & Watson, N. (2009). An inclusive outdoors? Disabled people's experiences of countryside leisure services. *Leisure Studies, 28*(4), 403–417.

Chambers, D. (2022). Are we all in this together? Gender intersectionality and sustainable tourism. *Journal of Sustainable Tourism, 30*(7), 1586–1601.

Chang, W., Chao, R. F., & Chien, G. (2021). Impacts of online social support and perceived value in influential travel blogs. *International Journal of Research in Business and Social Science, 10*(4), 339–348.

Choi, S., Lehto, X. Y., & Morrison, A. M. (2007). Destination image representation on the web: Content analysis of Macau travel related websites. *Tourism Management, 28*(1), 118–129.

Clery, E., Kiss, Z., Taylor, E., & Gill, V. (2017). *Disabled people's travel behavior and attitudes to travel*. UK: London: Department of Transport.

Cloquet, I., Palomino, M., Shaw, G., Stephen, G., & Taylor, T. (2017). Disability, social inclusion and the marketing of tourist attractions. *Journal of Sustainable Tourism, 26*(2), 221–237.

Connell, J., & Page, S. J. (2019). Case study: Destination readiness for dementia-friendly visitor experiences. A scoping study. *Tourism Management, 2019*(70), 29–41.

Daniels, M. J., Rodgers, E. B., & Wiggins, B. P. (2005). Travel tales: An interpretative analysis of constraints and negotiations to pleasure travel as experienced by persons with disabilities. *Tourism Management, 26*(6), 919–930.

Darcy, S. (2010). Inherent complexity: Disability, accessible tourism and accommodation information preferences. *Tourism Management, 31*(6), 816–826.

Darcy, S., & Buhalis, D. (2011). Introduction: From disabled tourists to accessible tourism. In D. Buhalis, & S. Darcy (Eds.), *Accessible tourism, chapter 1* (pp. 1–20). Channel View Publications.

Darcy, S., & Dickson, T. (2009). A whole-of-life approach to tourism: The case for accessible tourism experiences. *Journal of Hospitality and Tourism Management, 16*(1), 32–44.

Darcy, S., McIntosh, A., & Cockburn-Wootten, C. (2022). Disability. In D. Buhalis (Ed.), *Encyclopaedia of tourism management and marketing* (pp. 965–968). Edgar Elgar Publishing.

Darcy, S., McKercher, B., & Schweinsberg, S. (2020). From tourism and disability to accessible tourism: A perspective article. *Tourism Review, 75*(1), 140–144.

Darcy, S., & Pegg, S. (2011). Towards strategies intent: Perceptions of disability services provisions amongs hotel accommodation management. *International Journal of Hospitality Management, 30*(2), 468–476.

Del Vasto-Terrientes, L., Fernández-Cavia, J., Huertas, A., Moreno, A., & Valls, A. (2015). Official tourist destination websites: Hierarchical analysis and assessment with ELECTRE-III-H. *Tourism Management Perspectives, 15*, 16–28.

Devile, E., Eusebio, C., & Moura, A. (2023). Traveling with special needs: Investigating constraints and negotiation strategies for engaging in tourism activities. *Journal of Hospitality and Tourism*. https://doi.org/10.1108/JHTI-09-2022-0410. Vol. ahead-of-print No. ahead-of-print.

Devile, E., & Kastenholz, E. (2018). Accessible tourism experience: The voice of people with visual disabilities. *Journal of Policy Research in Tourism, Leisure and Events, 10*(3), 265–285.

Devile, E., & Moura, A. (2021). Travel by people with physical disabilities: Constraints and influences in the decision-making process. In C. Eusebio, L. Teixeira, & M. J. Carneiro (Eds.), *ICT tools and applications for accessible tourism* (pp. 55–73). Aveiro: IGI global.

Dickson, T. J., Misener, L., & Darcy, S. (2017). Enhancing destination competitiveness through disability sport event legacies: Developing an interdisciplinary typology. *International Journal of Contemporary Hospitality Management, 29*(3), 924–946.

Dinis, G., & Breda, Z. (2024). Assessing the accessibility of tourist destination promotional information: The case of Portugal. In G. P. Fernandes, & A. S. Melo (Eds.), *Handbook of research on innovation, differentiation, and new technologies in tourism, hotels, and food service, chapter 12* (pp. 239–255). IGI Global.

Domínguez, V. T. (2008). *Marketing turístico para personas con discapacidad. El producto turístico accesible. Tesis Doctoral presentada en la Universidad de Vigo*.

Domínguez Vila, T., Alén, M. E., & Darcy, S. (2018). Website accessibility in the tourism industry: An analysis of official national organization websites around the world. *Disability and Rehabilitation, 40*(24), 2895–2906.

Domínguez Vila, T., Alén, M. E., & Darcy, S. (2019). Accessible tourism online resources: A northern European perspective. *Scandinavian Journal of Hospitality and Tourism, 19*(2), 140–156.

Domínguez Vila, T., Alén, M. E., & Darcy, S. (2020). Accessibility of tourism websites: The level of countries' commitment. *Universal Access in the Information Society, 19*(2), 331–346.

Domínguez Vila, T., Darcy, S., & Alén, M. E. (2015). Competing for the disability tourism market. A comparative exploration of accessible tourism competitiveness in Spain and Australia. *Tourism Management, 45*, 261–272.

Domínguez Vila, T., Rubio-Escuderos, L., & Alén, G. E. (2024). Accessible tourism: Using technology to increase social equality for people with disabilities. *Tourism Review*. https://doi.org/10.1108/TR-11-2023-0812. ahead-of-print.

Eichhorn, V., & Buhalis, D. (2011). Accessibility: A key objective for the tourism industry. In D. Buhalis, & S. Darcy (Eds.), *Accessible tourism. Concepts and issues*. Bristol: Channel View Publications.

Eichhorn, V., Miller, G., Michopoulou, E., & Buhalis, D. (2008). Enabling access to tourism through information schemes? *Annals of Tourism Research, 35*(1), 189–210.

Elling, S., Lentz, L., Jong, M., & van den Bergh, H. (2012). Measuring the quality of governmental websites in a controlled versus an online setting with the 'website evaluation questionnaire'. *Government Information Quartely, 29*, 383–393.

European Commission. (2014). *Economic impact and travel patterns of accessible tourism in Europe. Service contract SI2.ACPROCE052481700*. European Commission, DG Enterprise Industry. GIK Belgium.

Eusebio, C., Silveiro, A., & Teixeira, L. (2020). Website accessibility of travel agents: An evaluation using web diagnostic tool. *Journal of Accessibility and Design for All, 10*(2), 180–208.

Fernández-Cavia, J., & Huertas-Roig, A. (2009). City brands and their communication through web sites. Identification of problems and proposals for improvement. In M. Gasco-Hernández, & T. Torres-Coronas (Eds.), *Information communication technologies and city marketing. Digital opportunities for cities around the world*. Hershey: Information Science References.

Fernandez-Diaz, E., Pérez-Vicente, J. A., Villaverde-González, R., et al. (2021). Real-world experience of ocrelizumab in multiple sclerosis in a Spanish population. *Annals of Clinical Translational Neurology, 8*(2), 385–394.

Fernández-Villarán, A., Erice, M., Espinosa, N., Goytia, A., Madariaga, A., & Rodríguez, A. (2021). Information about tourism destinations' accessibility in tourism online platforms: Is it useful for people with diverse abilities? In A. Harju-Mylyaho, & S. Jutila (Eds.), *Inclusive tourism futures*. Chanel View Publications.

Florido-Benítez, L. (2023). The accessibility of beaches for blind people and their guide dogs: Accessible tourism and inclusion in Spain. *Tourism Review*. https://doi.org/10.1108/TR-05-2023-0302

Fortuna, J., Harrison, C., Eekhoff, A., et al. (2023). Identifying barriers to accessibility for museum visitors who are blind and visually impaired. *Visitor Studies, 26*(2), 103–124.

Fuguet, T. (2008). Europa demanda más accesibilidad. *Editur, 07*, 10–15.

García-Santiago, L., & Olvera-Lobo, M. D. (2018). Mexican world heritage information on the web: Institutional presence and visibility. *Information Development, 34*(3), 261–279.

Garrod, B., & Fennell, D. A. (2023). Strategic approaches to accessible ecotourism: Small steps, the domino effect and not paving paradise. *Journal of Sustainable Tourism, 31*(3), 760–777.
Gassiot, A. (2016). *Accessible tourism: An integrated model of the behaviour of tourists with disabilities in a destination*. Doctoral Thesis,. Universitat de Girona.
Gillovic, B., & McIntosh, A. (2020). Accessibility and inclusive tourism development: Current state and future agenda. *Sustainability, 12*(22), 9722.
Gillovic, B., McIntosh, A., Darcy, S., & Cockburn-Wootten, C. (2018). Enabling the language of accessible tourism. *Journal of Sustainable Tourism, 26*(4), 615–630.
Granleese, J. (2016). Lookism. In A. Wong, M. Wickramasinghe, R. Hoogland, & N. A. Naples (Eds.), *The Wiley Blackwell encyclopedia of gender and sexuality studies*.
Guerra, L. S. (2003). *Tourism for all: Organizing trips for physically disabled customers*. Fern Barrow, Poole: MA European Tourism Management, Bournemout University.
Hallet, R., & Kaplan-Winger, J. (2010). *Offici all al tourism websites: A discourse analysis perspective*. Bristol: Chanel View Publications.
Hanes, R., Brown, I., & Hansen, N. E. (2017). *The Routledge history of disability*. Routledge.
Hansard. (2016). *Parliamentary debates: Air passengers with dementia. Vol 611, Col. 1729'. [Online]*. Available at https://hansard.parliament.uk/Commons/2016-06-14/debates/34E8601C-DFFF-4A7C-B2A8-5CE4C5FE712C/AirPassengersWithDementia (Accessed: 21 Jan 2023).
Hartwell, H., Fyall, A., Willis, C., Page, S., Ladkin, A., & Hemingway, A. (2018). Progress in tourism and destination well-being research. *Current Issues in Tourism, 21*(16), 1830–1892.
Hefny, L. (2024). For accessible tourism experience: Exploring the blog sphere of people with disability. *Advances in Hospitality and Tourism Research (AHTR), 12*(1), 33–61. https://doi.org/10.30519/ahtr.1283500
Hootsuite. (2020). *Digital 2020. Global overview report. We are social*. Hootsuite. https://wearesocial.com/es/blog/2020/01/digital-report-2020-el-informe-sobre-las-tendencias-digitales-redes-sociales-y-mobile/.
Hootsuite. (2022). *Digital 2022. Global overview report. We are social*. Hootsuite. https://wearesocial.com/es/blog/2022/01/digital-report-2022-el-informe-sobre-las-tendencias-digitales-redes-sociales-y-mobile/.
International Organisation for Standardization. (2021). *ISO 21902:2021 Accessible tourism for All. Requirements and recommendations*.
Ip, C., Law, R., & Lee, H. A. (2011). A review of website evaluation studies in the tourism and hospitality fields from 1996 to 2009. *International Journal of Tourism Research, 13*(3), 234–265.
Kakol, M., Nielek, R., & Wierzbicki, A. (2017). Understanding and predicting web content credibility using the content credibility corpus. *Information Processing & Management, 53*(5), 1043–1061.
Kling, K. G., & Ioannides, D. (2019). Enhancing accessibility in tourism & outdoor recreation: A review of major research themes and a glance at best practice. In *ETOUR, Rapport 2019:4*. Sundsvall: Mid Sweden University.
Kumari-Campbell, F. (2009). *Contours of ableism: The production of disability and abledness*. Palgrave Macmillan.
Kusufa, R. A., Nurfarida, I. N., Wilujeng, S., & Firdaus, R. M. (2022). Tourism experience in tourism villages: Persons with disabilities perception. *European Journal of Development Studies, 2*(4), 24–28.
Law, R., Qi, S., & Buhalis, D. (2010). A review of website evaluation in tourism research. *Tourism Management, 31*(3), 297–313.
Lee, H., Son, I., Yoon, J., & Kim, S. S. (2017). Lookism hurts appearance discrimination and self-rated health in South Korea. *International Journal for Equity in Health, 16*(1), 204.
Lee, W., & Gretzel, U. (2012). Designing persuasive destination websites: A mental imagery processing perspective. *Tourism Management, 33*(5), 1270–1280.
Leiper, N. (2003). *Tourism management* (3rd ed.). Hospitality Press.
Leiras, A., & Caamaño-Franco, I. (2023). Search strategies in accessible tourism, barrier-free tourism, disabled tourism and easy access tourism literature. *Tourism Review*. https://doi.org/10.1108/TR-04-2023-0241
Leung, R., Rong, J., Li, G., & Law, R. (2013). Personality differences and hotel web design study using targeted positive and negative association rule mining. *Journal of Hospitality Marketing & Management, 22*(7), 701–727.
Li, J., Zhu, X., Li, X., Prithviraj, C., & George, E. (2017). Gain or pain: How disability severity affects the impacts of climate for inclusion. In *Academy of management best paper proceedings, 30 oct 2017*.
Liasidou, S., Umbelino, J., & Amorim, E. (2017). Revisiting tourism studies curriculum to highlight accessibleand inclusive tourism. *Journal of Teaching in Travel & Tourism, 19*(2), 112–125.
Ling, X., Zhang, Y., Liu, S., & Guo, Y. (2023). Enhancing AI-human interactions in the tourism industry: A review and future directions. *Journal of Tourism Technology, 13*(2), 45–61.
Luna-Nevarez, C., & Hyman, M. (2012). Common practices in destination website design. *Journal of Destination Marketing and Management, 1*(12), 94–106.
Machado, P. (2020). Accessible and inclusive tourism: Why it is so important for destination branding? *Worldwide Hospitality and Tourism Themes, 12*(6), 719–723.
Majid, G. M., Tussyadiah, I., Kim, Y. R., & Pal, A. (2023). Intelligent automation for sustainable tourism: A systematic review. *Journal of Sustainable Tourism, 31*(11), 2421–2440.
McKercher, B., & Darcy, S. (2018). Re-conceptualizing barriers to travel by people with disabilities. *Tourism Management Perspectives, 26*, 59–66.
Mckercher, B., Packer, T., Yau, M. K., & Lam, P. (2003). Travel agents as facilitators or inhibitors of travel: Perceptions of people with disabilities. *Tourism Management, 24*(4), 465–474.
Melian, G. A., Prats, L., & Coromina, L. (2018). Barreres turístiques per a turistes espanyols amb discapacitats: desenvolupament i validació d'una escala. *Documents d'Anàlisi Geogràfica, 64*(1), 49–71. https://doi.org/10.5565/rev/dag.364
Michopoulou, E., Darcy, S., Ambrose, I., & Buhalis, D. (2015). Accessible tourism futures: The world we dream to live in and the opportunities we hope to have. *Journal of Tourism Futures, 1*(3), 179–186.
Mojo, M. (2020). Global hotel accessibility. In *Insights 2020*. Mobility: Mojo.
Morrison, A. (2013). *Marketing and managing tourism destinations*. New York: Routledge.
Moussawi, R., & Koufaris, M. (2019). Personalization and AI in tourism: A new era of customer experiences. *Tourism Review, 74*(3), 234–250.
Münch, H., & Ulrich, R. (2011). Inclusive tourism. In A. Papathanassis (Ed.), *The long tail of tourism*. Gabler.
Muñiz, J., Fidalgo, A. M., García-Cueto, E., Martínez, R., & Moreno, R. (2005). *Análisis de los ítems*. Madrid: La Muralla.
Nazari, N., Salahshoor, M. R., Özdenk, G. D., Zangeneh, A., Lebni, J. Y., Foroughinia, S., & Ziapour, A. (2021). A study of the components of research self-efficacy in postgraduate students at Kermanshah University of Medical Sciences in 2018. *Journal of Public Health, 29*, 1243–1250.
Nettleton, D. (2014). Selection of variables and factor derivation. In D. Nettleton (Ed.), *Commercial data mining* (pp. 79–104). Morgan Kaufmann.
Neumman, P., & Mason, C. W. (2023). The influence of transportation and digital technologies on backcountry tourism and recreation in British Columbia. *Tourism Geography, 25*(4), 1166–2023.
Nigg, J. J., & Peters, M. (2022). The evolution of ICTs in accessible tourism: A stakeholder collaboration analysis. *Journal of Hospitality and Tourism Management, 52*, 287–294.
Nunnaly, J. C. (1978). *Pshycometrics theory* (2nd ed.). New York: McGraw-Hill.
Nyanjom, J., Boxall, K., & Slaven, J. (2018). Towards inclusive tourism? Stakeholder collaboration in the development of accessible tourism. *Tourism Geographies, 20*(4), 675–697.
Oliver, M. (2009). *Understanding disability: From theory to practice*. Hampshire, UK: Palgrave Macmillan.
Özogul, G., & Baran, G. G. (2016). Accessible tourism: The golden key in the future for specialized travel agencies. *Journal of Tourism Futures, 2*(1), 79–87.
Palacios, A. (2008). *El modelo social de discapacidad: orígenes, caracterización y plasmación en la Convención Internacional sobre los Derechos de las Personas con Discapacidad*. CERMI.
Palmeira, M. (2014). Intuitions in conflict: Preference reversals due to switch between sensitization and diminishing sensitivity. *Journal of Behavioral Decision Making, 27*(2), 124–133.
Pant, M., & Sinha, A. (2020). Evaluating state of web accessibility standards in top airlines websites. *Conference IEEE International IOT, Electronics and Mechatronics Conference, 2020*, 1–5.
Pavkovic, I., Lawrie, A., Farrell, G., Huuskes, L., & Ryan, R. (2017). *Inclusive tourism: Economic opportunities*.
Perkins, R., Khoo-Lattimore, C., & Arcodia, C. (2021). Collaboration in marketing regional tourism destinations: Constructing a business cluster formation framework through participatory action research. *Journal of Hospitality and Tourism Management, 46*, 347–359.
Poria, Y., Beal, J., & Shani, A. (2021). "I am so ashamed of my body": Obese guests' experiences in hotels. *International Journal of Hospitality Management, 92*, 1–8.
Poria, Y., Biran, A., & Reichel, A. (2009). Visitors? Preferences for interpretation at heritage sites. *Journal of Travel Research, 48*(1), 92–105.
Porto, N., Rucci, A. C., Darcy, S., Garbero, N., & Almond, B. (2019). Critical elements in accessible tourism for destination competitiveness and comparison: Principals component analysis from Oceania and South America. *Tourism Management, 75*, 169–185.
Randle, M., & Dolnicar, S. (2019). Enabling people with disabilities to use Airbnb. *Annals of Tourism Research, 76*, 278–289.
Rolim, A. M., Pinto, V. D., & Rosa, M. P. (2021). Birdwatching and birding by ear: An accessible and inclusive tourism proposal for the city of Lagos. *Journal of Accessibility and Design for All, 11*(1), 48–85.
Roney, S. A., & Özturan, M. (2006). A content analysis of the Web sites of Turkish travel agencies. *Anatolia: An International Journal of Tourism and Hospitality Research, 17*(1), 43–54.
Rubio, L. (2021). *The mosaic f accessible tourism: Stimuli and obstacles to accessibility in tourism destinations from s stakeholders' perspective*. PhD Universidad de Alicante.
Rucci, A. C., & Porto, N. (2022). Accessibility in tourist sites in Spain: Does it really matter when choosing destination? *European Journal of Tourism Research, 31*, 3108.
Ruiz, J. S., Tene, M. L., & Torre, D. C. (2020). Accessible and inclusive tourism in Ecuador compared to accessible tourism in other countries. *Universidad y Sociedad, 12*(1), 225–231.
Samuel, J., & Pritchard, M. (2001). The ignored minority: Meeting the needs of people with profund learning disability. *Tizard Learning Disability, 6*(2), 34–44.
Scheyvens, R., & Biddulph, R. (2018). Inclusive tourism development. *Tourism Geographies, 20*(4), 589–609.
Scheyvens, R., & Cheer, J. M. (2021). Tourism, the SDGs and partnerships. *Journal of Sustainable Tourism, 30*(10), 2271–2281.
Schweinsberg, S., & Darcy, S. (2022). Climate change, time and tourism knowledge: The relativity of simultaneity. *Sustainability, 14*(23), 16220.
Shakespeare, T., Ndagire, F., & Seketi, Q. E. (2021). Triple jeopardy: Disabled people and the COVID-19 pandemic. *The Lancet, 397*(10282), 1331–1333.
Sizan, M. H., Latif, W. B., & Karim, M. (2022). Travel bloggers as a source of information about tourism destination: A study in Bangladesh. *Webology, 19*(2), 690–713.
Small, J. (2022). *The passenger experience of the travel: A critical approach*. Bristol, UK: Channel View Publications.
Small, J., & Harris, C. (2012). Obesity and tourism: Rights and responsibilities. *Annals of Tourism Research, 39*, 686–707.

Song, H., Liu, J., & Chen, G. (2013). Tourism value chain governance: Review and prospects. *Journal of Travel Research, 52*(1), 15–28.
Souca, M. L. (2010). *Accessible tourism-The ignored opportunity*.
Spanish Accessibility Tourism Observatory. (2017). *Observatorio de accesibilidad universal del turismo en España*. Madrid: Via Libre.
Swedish Environmental Protection Agency. (2015). Friluftsliv för alla. Uppföljning av de tio målen för friluftspolitiken. Available on http://www.naturvardsverket.se/Documents/publikationer6400/978-91-620-6700-7.pdf?pid=16863.
Tang, L., & Jang, S. (2008). Tourism information trust as a bridge between information value and satisfaction: An exploratory study. *Tourism Analysis, 13*(5/6), 565–578.
Teixeira, P., Eusébio, C., & Teixeira, L. (2021). Website accessibility in the hospitality industry: A study in the central region of Portugal. *International Journal Tourism Policy, 11*(3), 222–246.
Teixeira, P., Eusébio, C., & Teixeira, L. (2022). How diverse is hotel website accessibility? A study in the central region of Portugal using web diagnostic tools. *Tourism and Hospitality Research, 22*(2), 180–195.
Teixeira, P., Lemos, D., Carneiro, M. J., Eusébio, C., & Teixeira, L. (2020). Web Accessibility in Portuguese Museums: Potential Constraints on Interaction for People with Disabilities. In C. Stephanidis, M. Antona, Q. Gao, & J. Zhou (Eds.), *HCI International 2020 – Late Breaking Papers: Universal Access and Inclusive Design. HCII 2020. Lecture Notes in Computer Science* (p. 12426). Cham: Springer.
Tomej, K., & Duedahl, E. (2023). Engendering collaborative accessibility through tourism: From barriers to bridges. *Annals of Tourism Research, 99*, 1–11.
Tourism Innovation Summit. (2019). *Where technology meets tourism. 25-27 November. Sevilla, Spain*.
Tuomi, A., & Ascenção, M. (2023). Intelligent automation in hospitality: Exploring the relative automatability of frontline food service task. *Journal of Hospitality and Tourism Insights, 6*(1), 151–173.
UN. (2006). *Convention on the rights of persons with disabilities. A/RES/61/106*. New York: UN.
United Nations World Tourism Organization–UNWTO. (2014). *Manual sobre turismo accesible para todos: Principios, herramientas y buenas prácticas*. Madrid: UNWTO.
UNWTO. (2015a). *Manual on accessible tourism for all: Principles, tools and good practices - module 1*. World Tourism Organization (UNWTO) and Fundación ACS. https://doi.org/10.18111/9789284416486
UNWTO. (2015b). *Manual on accessible tourism for all: Public-private partnerships and good practices*. World Tourism Organization (UNWTO) and Fundación ACS. https://doi.org/10.18111/9789284416585
UNWTO. (2017). *2017 International Year of Sustainable Tourism for Development*. United Nations 70th General Assembly.
UNWTO. (2020). *UNWTO inclusive recovery guide: Sociocultural impacts of COVID-19 - issue 1 - persons with disabilities*.
W3C. (2022). Leading the web to its full potential accessed 22 October 2022 https://www.w3.org/.
Wang, W., Zhao, H., Cole, S. T., & Xun, P. (2020). Effectiveness of accessibility information on hotels' website: A quasi-experimental design. *Travel and Tourism Research Association: Advancing Tourism Research Globally*, 46.
Wang, Y., & Russo, S. M. (2007). Conceptualizing and evaluating the functions of destination marketing systems. *Journal of Vacation Marketing, 13*(3), 187–203.
WHO. (2018). *Ageing report: Policy challenges for ageing societies*. EU: European Commission.
WHO. (2023). *Disability*. EU: European Commission.
World Health Organization –WHO. (2012). *The 2012 aging report*. EU: European Commission.
Worsfold, K., Fisher, R., McPhail, R., Francis, M., & Thomas, A. (2016). Satisfaction value and intention to return in hotels. *International Journal of Contemporary Hospitality Management, 28*(11), 2570–2588.
Xiang, Z., & Fesenmaier, D. R. (2020). Travel information search. *Handbook of e-Tourism*, 921–940.
Xiong, L., Cobanoglu, C., Cummings, P., & DeMiccio, F. (2009). Website accessibility of US based hospitality websites. In *Information and communication technologies in tourism 2009* (pp. 273–284). Viena: Springer.
Yuan, Y., Wang, Y., & Li, X. (2019). The role of AI, big data, and IoT in transforming tourism services. *Journal of Hospitality and Tourism Technology, 10*(1), 78–89.
Zajadacz, A. (2015). Evolution of models of disability as a basis for further policy changes in accessible tourism. *Journal of Tourism Futures, 1*(3), 189–202.
Zhang, Y., & Cole, S. T. (2016). Dimensions of lodging guest satisfaction among guests with mobility challenges: A mixed-method analysis of web based texts. *Tourism Management, 53*, 13–27.

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