

Article

# Accessibility in Inclusive Tourism? Hotels Distributed Through Online Channels

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**Abstract:** There is a lack of comprehensive international studies on accommodations for people with disabilities; only small, local-level studies exist. This study aims to show the status of the tourist accommodation sector through the online distribution channel in terms of accessibility to offer more inclusive tourism. A descriptive analysis has been carried out with more than 31,000 hotels from the online travel agency Booking.com, in the 100 most touristic cities in the world. For the first time, an accurate picture of adaptation in the hotel sector for people with disabilities is presented. Results show that the adapted hotel infrastructures by countries are uneven. The main adaptations are those that help to avoid mobility barriers, and in contrast, hotels offer very few adaptations for sensory disabilities such as visual disabilities. Moreover, this study shows that, worldwide, countries with the highest income per capita, such as the United States of America, Canada, Ireland, Australia, New Zealand, Qatar or the United Arab Emirates, have the highest degree of hotel adaptation.

**Keywords:** inclusive tourism; accessibility; disability; Booking.com; hotels



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## 1. Introduction

Tourist activity has become a vital opportunity that contributes to the well-being of people [1]. It is also one of the economic, social and cultural mechanisms enjoyed by about 1.5 billion people around the world in 2019, according to the World Tourism Organization [2]. During the COVID-19 crisis, hotels around the world have shown their ability to adapt their facilities and services to the new health requirements of society. This adaptability could also be applied to groups such as people with functional diversity who desire to participate in tourism but may find more difficulties in accessing and enjoying these activities on their own. An important group is people who have some difficulty coping with their daily activities due to physical or sensory disability (e.g., visual disabilities) [3] that limits their mobility. This is an important group because one billion people, or 15% of the world's population, are diagnosed with some form of disability [4].

There are some initiatives to make tourism inclusive and accessible for everyone, and increasingly, both society and people involved in tourism management are becoming aware of the importance of offering tourist activities adapted to everyone. For instance, the UNWTO dedicated 2016 to "Accessible Tourism for All: An Opportunity Within Our Reach" [5]. The concept of accessible tourism for all "is not about creating separated services for disabled people, it aims at full integration, or rather inclusion of people with special needs, in particular disabled and aged people, in the tourism sector" [6].

Achieving a tourist activity with full integration of services for people with disabilities by providing products and environments adapted to everyone would be the ideal scenario. However, unfortunately, many people still cannot enjoy all tourism and leisure activities despite having the time and financial capacity to do so [7].

There are initiatives to offer accessible tourism from the point of view of both public administration and private companies [8]. Specialised travel agencies offer programmes tai-

lored to people with some kind of functional diversity, but what happens when these people want to travel on their own? Do they find hotel establishments adapted to their needs?

Increasingly, hotel establishments are offering facilities or infrastructure to overcome physical and mobility barriers, but there are many types and degrees of disability, and not all hotels offer a perfect adaptation to each disability. Hence, it is important to know if the accommodation sector is sufficiently adapted and prepared to accommodate and satisfy any need that may arise.

There are no public records on hotels with accommodations for people with disabilities, only a few locally focused studies that do not provide generalisable conclusions [9,10]. Thus, a large survey of hotels around the world would be the standard solution to achieve the proposed objectives. However, this procedure would require enormous financial resources to obtain a sample representing a very small percentage of hotels worldwide. There could also be biases derived from the possibility of a greater propensity to respond by the most socially responsible hotels (with the greatest number of adaptations) than responses from those hotels that ignore recommendations regarding accommodations for people with disabilities [11].

Therefore, the main objective of this work is to show the status of the hotel sector through the online distribution channel in terms of accessibility to offer more inclusive tourism. In this sense, this article tries to answer the following research questions: What are the hotel adaptations for people with disabilities in different regions and countries in the world? What countries around the world have more hotels adapted for people with disabilities? What types of adaptation needs are covered in the hotel sector?

To avoid the abovementioned drawbacks and limitations, and to achieve our goal, data have been collected from Booking.com, the world's leading company in the distribution of hotel beds [12]. The vast majority of accommodations in the world, especially in Europe and America, sell rooms using this distribution channel [13], which allows us to obtain a very representative sample of hotels for each destination. This website allows users to search for accommodation using a filter function called "Property accessibility", which was used in this study to find establishments adapted to each type of disability. Data obtained were filtered, and a descriptive analysis was performed to compare different hotels from countries around the world to learn their situation in terms of accessibility. In the end, we developed a database of adaptations implemented in eight categories for 76,832 accommodations (31,868 hotels) from Booking.com in 100 worldwide destinations in a short time and with reduced financial cost.

The results show that the vast majority of the world's hotel industry has serious deficiencies in accessibility, even in basic adaptations such as having wheelchair-accessible facilities. The adaptation percentages in each of the eight categories studied vary substantially by country and region, with America, especially the United States and Canada, the most aware of the adaptability in tourist accommodation infrastructures. The results suggest that there is still a long way to go in accommodation accessibility, not only in less-developed countries or budget hotels but also throughout the world.

## 2. Literature Review

People with disabilities want to do things, but attitudinal and environmental barriers in which they find themselves hinder their full and effective participation in society on an equal footing with others in travel, accommodation and other tourist services [14].

People with disabilities include those with physical, intellectual or sensory impairments. Other people included in this group who have problems accessing services and tourism products are people with temporary disabilities, people who use crutches temporarily, older adults and people of large or small size [15]. Tourism is a right, and everyone should be able to enjoy it without any obstacle or difficulty. The fact that some people with disabilities are excluded from enjoying tourism has a negative impact on their lives [16].

If we look for a classification, the most accepted and disseminated is the International Classification of Functioning, Disability and Health (ICF) completed by the World Health Organization (WHO) at the 54th Assembly in 2001 [17].

According to UNWTO, accessible tourism is a form of tourism that involves collaboration between stakeholders to enable people with special access needs (in different dimensions, among them mobility, vision, hearing and cognition) to function independently. This implies that these tourists must be treated with equality and dignity through a universally designed range of tourism products, services and environments [15].

The WHO is convinced that access to tourism facilities, products and services must be a central part of any sustainable and responsible tourism policy. Some data indicate that 70% of Europeans with accessibility needs have the physical and economic capacity to travel. In addition, they are part of a family or a group of friends; therefore, most of the time, they do not travel alone and will travel with an average of 1.5 companions per potential traveller [18]. Also, if they had more information about accessible destinations, this group would take more than a few holidays a year with family or friends [19] since their economic level is medium/high because they often receive benefits.

The development of public and private policies benefits not only people with disabilities but also the entities that implement these measures since they offer benefits to an enormous group of people who are normally accompanied. A destination that is concerned and implements measures to avoid architectural barriers and the presence of obstacles improves its quality and attracts potential users [20].

The accessible tourism market represents a great opportunity for the destinations [21] since the profile of a tourist with a disability is a person who tends to travel more frequently during the low season and has a pattern of less seasonal travel than the general population [22]. Another advantage of this type of client is the high degree of loyalty, mainly due to the difficulty they have in finding destinations suitable for their specific needs [22]. Normally accompanied or in groups, they make more journeys to the destination and, in some parts of the world, their average expenditures are higher [5].

Tourism is an activity that many people with disabilities are forced to sacrifice for the simple reason that it implies cooperation of physical, mental and social abilities [23]. People with disabilities have the same wishes as those who have the ability to travel, but it is certain that they are a more demanding group [23]. If a person with disabilities is in an accommodation and feels at home there, they will develop a physical bond to the place and a sense of identity of a place and, therefore, will be more predisposed to make more trips to that location [24].

Moreover, the most worrying issue is that accommodation providers perceive tourists with a disability as a “problem”. Also, the accessible rooms are not very attractive for tourists without a disability [24]. There is extensive academic literature about disability and accessibility in tourism, but a lack of data in most countries in the world [25]. Most studies on disability and tourism use surveys of tourists, asking their perceptions about the level of adaptation and accessibility of the establishments in different formats, including conventional surveys [26], in-depth interviews and focus groups [23] or online questionnaires [27]. However, little attention has been paid to the great possibilities offered by online reviews in this area. Only one study has used reviews for the study of decision-making characteristics of disabled tourists [28].

Most hotels do not provide adequate facilities to be considered as barrier-free or adapted hotels [29]. Previous research identified a series of practices that help increase accessibility levels of hotel facilities [30]. Furthermore, Grady and Ohlin [31] recommended the vigorous use of communication channels to connect hotel guests with mobility impairments and hospitality service providers [31]. Disabled travellers place the heaviest weight on the accessibility of accommodation facilities to maximise their travel enjoyment and satisfaction [32].

Determining what elements are necessary to consider a hotel as adapted for people with physical limitations is complex; Israeli [33] proposes seven accessibility attributes for

wheelchair users or those using crutches as walking aids: staircases, elevators, parking areas, sidewalks, access ramps, paths, and restrooms.

Some studies in the accommodation sector differentiate difficulties and barriers linked to the human or physical environments, focusing on hotel rooms, hotel public areas, hotel restaurants, and staff attendance [34]. In this context, the concept of “universal design” arises, referring to products and environments designed to be used by everyone (including disabled people). Some hotels have adopted the features of the seven principles of universal design, [35] especially in new construction. These principles can help hoteliers in the operational management of facilities and reduction of operational costs [27].

Many hotels in the world are heavily dependent on dominant online travel agencies (OTAs) like Expedia and Booking.com [13,36]. Booking.com, created in 1996, is one of the largest e-commerce companies in the world [37]. Every day, more than 1.5 million room nights are booked through its platform, [12] and it is a leader in the sector. It has also served as a source of academic information in a large body of research focused on tourism and hospitality [38–44]. Booking.com has been active for many years and has been consolidating its position as a leader in the sector. Traditional hosting companies continue to be the first in terms of bookings and prices [45].

### 3. Methodology and Data Collection

As indicated in the introduction, we use the filter tools of Booking.com to get results on the number of accommodations that offer accessibility adaptations. This methodology allows access to information related to these facilities in thousands of hotels in the world quickly, accurately and free of charge.

In January 2019, hotel data were collected through Booking.com, as hotels are the main type of accommodation used in the world, from the 100 most touristic cities in the world as reported by Euromonitor International in 2017 [46]. Data were from hotels that had available rooms from 6 to 7 April 2019, since it was not high season, and therefore, better availability in the accommodations could be obtained. The data collection took place a few months before the COVID-19 pandemic, thus avoiding the distortions that would occur if the data were from 2020 or 2021 due to the temporary closures of accommodation during those years.

Expedia and TripAdvisor were other popular websites considered to have a large hotel database worldwide. However, TripAdvisor does not offer filters for disabled-accessible facilities. Although Expedia does have that filter, it only offers three adaptation categories and does not show the number of hotels that have implemented each adaptation. For this reason, it was more informative to use Booking.com, which offered eight adaptation categories in 2019 (11 in 2021), and each search indicates the number of adaptations each hotel has implemented.

This study is focused on hotels rather than other types of accommodations, as hotels are the most used accommodation worldwide [47]. However, in the collection of data through Booking.com, all the options offered by this platform were downloaded to search for those facilities and services that are adapted and what type of accessibility they offered at the time of the data collection:

- Wheelchair-accessible
- Toilet with grab rails
- Lower bathroom sink
- Higher-level toilet
- Emergency cord in bathroom
- Visual aids: Braille
- Visual aids: tactile signs
- Auditory guidance

The categories used by Booking.com are not exactly those used in other studies but are very similar to those used in several of them.

It should be noted that the results of hotels obtained from Booking.com are based on establishments that work with Booking.com. However, the level of use of Booking.com is enormous in most destinations in the world, especially in Europe and America, where it is very unusual for a hotel not to sell its rooms through the world leader in reservations [13]. In total, information from 76,832 accommodations in the 100 most touristic cities in the world was collected, distributed as follows.

Hotels are divided into countries and geographical regions America (AME), Asia and the Pacific (ASP), Europe (EUR) and the Middle East and Africa (MEA), as can be seen in Table 1, following the same criteria as other research [40,47,48].

**Table 1.** Total accommodations available on Booking.com by regions (100 cities 6–7 April 2019).

	Total	AME	%	ASP	%	EUR	%	MEA	%
Hotels	31,868	3116	9.78%	14,658	46.00%	12,049	37.81%	2045	6.42%
Apartments	27,110	2528	9.32%	10,052	37.08%	12,837	47.35%	1693	6.24%
Hostels	6028	313	5.19%	2740	45.45%	2659	44.11%	316	5.24%
Others	11,826	1572	13.29%	5674	47.98%	3472	29.36%	1108	9.37%
Total	76,832	7529	9.80%	33,124	43.11%	31,017	40.37%	5162	6.72%

Source: Authors' own elaboration from Booking.com.

#### 4. Results

Focusing exclusively on the hotels that have at least one accessibility option on Booking.com, we broaden the vision and focus on a more in-depth approach to differentiate their different installations between continents. In these available hotels, 18,368 adaptations are applied to the accessibility filters offered by this platform:

- Wheelchair-accessible: 5873
- Toilet with grab rails: 3774
- Lower bathroom sink: 2507
- Higher-level toilet: 2232
- Emergency cord in bathroom: 1878
- Visual aids: Braille: 877
- Visual aids: tactile signs: 682
- Auditory guidance: 545

The total number of adapted hotels on Booking.com that offer rooms is 18,368 within the 100 cities analysed. This represents 23.91% of all the available accommodations on this platform, which includes other types of accommodation such as apartments, hostels, etc., and 57.6% of the total hotels that can be found. Therefore, it can be confirmed that almost six out of ten hotels on Booking.com have at least one accessible facility for people with disabilities.

In detail and related to the research question (hotel adaptations for people with disabilities), it can be seen that the adaptation of wheelchair access is the highest, followed by the toilet with handrails and the elevated washbasin. The adaptations related to sensory disabilities (Braille, tactile posters and audio guides) are a lower percentage, between three and five percent in all the dataset.

Moreover, and answering the research question regarding what countries and regions around the world have more hotels adapted for people with disabilities, Table 2 shows how accessible installations are distributed on each continent. For instance, wheelchair accessibility is more prevalent in Asia and the Pacific (38.87%) and Europe (35.09%) in absolute values. This tendency is maintained, to a greater or lesser extent, with the other installations except for Braille and tactile signs, which have a greater presence in America and Asia and the Pacific.

**Table 2.** Percentage of accessible facilities in hotels by region over the total adapted hotels.

	Wheel-Chair	Toilet with Grab Rails	Lower Sink	Higher-Level Toilet	Emergency Cord	Braille	Tactile Signs	Audio Guide
AME	13.37%	14.68%	14.12%	16.53%	4.63%	32.27%	30.21%	26.24%
ASP	38.87%	33.25%	30.20%	27.87%	30.51%	35.58%	36.22%	28.99%
EUR	35.09%	39.11%	43.84%	42.79%	52.61%	21.21%	20.82%	28.62%
MEA	12.67%	12.96%	11.85%	12.81%	12.25%	10.95%	12.76%	16.15%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Source: Authors' own elaboration from Booking.com.

In Table 3, we can see the relative values by regional distribution of each installation. The Middle East and Africa and America are the most well-adapted regions. When we take into account the percentage of hotels analysed in each region, we can observe that America represents only 9.78% of the total dataset. For example, the adaptation for blind customers with information in Braille represents 32.27% of the total, which brings the region to most well-adapted. The Asia and Pacific region is the least adapted. Wheelchair accessibility predominates the most in all regions over the rest. Next, we find toilet with grab rails, higher-level toilet and lower sink. The other measures do not have as much presence, especially those related to some sensory disabilities.

**Table 3.** Percentage of accessible facilities in hotels by region over all the hotels.

	Wheel-Chair	Toilet with Grab Rails	Lower Sink	Higher-Level Toilet	Emergency Cord	Braille	Tactile Signs	Audio Guide
AME	25.19%	17.78%	11.36%	11.84%	2.79%	9.08%	6.61%	4.59%
ASP	15.58%	8.56%	5.16%	4.24%	3.91%	2.13%	1.69%	1.08%
EUR	17.11%	12.25%	9.12%	7.93%	8.20%	1.54%	1.18%	1.29%
MEA	36.38%	23.91%	14.52%	13.99%	11.25%	4.69%	4.25%	4.30%
Total	18.43%	11.84%	7.87%	7.00%	5.89%	2.75%	2.14%	1.71%

Source: Authors' own elaboration from Booking.com.

In-depth data regarding hotel adaptations for people with disabilities and the types of adaptation needs covered worldwide is next presented by continents and countries.

#### 4.1. America

Data from America shows that the United States is above average in all the accessible facilities, except in the low sink, as can be seen in Table 4.

**Table 4.** Distribution of the accessible installations for the countries in AME.

Countries	Hotels	Wheel-Chair	Toilet with Grab Rails	Lower Sink	Higher-Level Toilet	Emergency Cord	Braille	Tactile Signs	Audio Guide
Argentina	187	20.43%	11.56%	6.18%	6.99%	1.88%	1.08%	1.61%	0.54%
Brazil	241	28.69%	23.51%	18.33%	11.95%	1.99%	7.17%	3.19%	1.20%
Canada	167	34.22%	21.39%	11.76%	13.90%	0.53%	3.74%	2.14%	1.60%
USA	1877	26.71%	18.20%	10.35%	11.18%	3.15%	9.93%	8.21%	6.60%
Mexico	178	14.17%	5.34%	4.52%	6.78%	1.23%	2.67%	1.44%	0.41%
Peru	121	16.04%	7.23%	5.03%	4.09%	1.26%	2.20%	1.57%	0.63%
Dominican Republic	10	10.87%	0.00%	0.00%	10.87%	0.00%	0.00%	0.00%	0.00%
Total	2781	23.49%	16.58%	10.59%	11.04%	2.60%	8.47%	6.16%	4.28%

Source: Authors' own elaboration from Booking.com.

In general, it is important to highlight the position of Canada and Brazil, which are above average in all the accessible facilities, except those for the sensory disabled. The countries that are mostly under the standards of the continent are Peru, Mexico, Argentina and the Dominican Republic.

#### 4.2. Asia and the Pacific

Within the majority of countries that comprise the continent and are of tourist importance on an international scale, Table 5 shows the distribution by countries in ASP.

**Table 5.** Distribution of the accessible installations for the countries in ASP.

Countries	Hotels	Wheel-Chair	Toilet with Grab Rails	Lower Sink	Higher-Level Toilet	Emergency cord	Braille	Tactile Signs	Audio Guide
Australia	370	25.97%	19.11%	9.46%	7.98%	1.30%	2.78%	1.67%	0.37%
Cambodia	300	16.71%	5.14%	7.00%	6.00%	3.43%	1.14%	1.71%	1.71%
South Korea	518	24.68%	21.27%	6.49%	3.57%	7.14%	10.39%	8.12%	2.44%
Hong Kong	227	25.93%	16.67%	12.59%	8.52%	8.89%	5.19%	4.07%	2.22%
India	910	14.36%	6.27%	5.92%	5.18%	3.22%	1.48%	1.52%	1.65%
Indonesia	311	25.08%	9.60%	4.64%	4.64%	2.32%	0.62%	0.31%	0.93%
Japan	493	14.99%	11.97%	4.81%	3.49%	6.03%	3.68%	1.04%	0.47%
Macau	29	20.34%	13.56%	3.39%	3.39%	8.47%	0.00%	0.00%	0.00%
Malaysia	383	17.15%	7.77%	4.84%	3.43%	1.92%	1.31%	1.11%	1.11%
New Zealand	71	29.52%	21.90%	8.57%	6.67%	0.95%	0.00%	0.00%	0.00%
Singapore	198	21.20%	16.77%	7.28%	4.75%	7.28%	2.85%	2.22%	0.32%
Sri Lanka	85	32.14%	16.96%	10.71%	8.93%	2.68%	1.79%	1.79%	0.89%
Thailand	750	14.36%	5.83%	2.95%	3.00%	2.33%	0.92%	1.29%	0.54%
Taiwan	653	14.78%	12.66%	6.86%	5.31%	11.50%	6.38%	3.09%	2.51%
Vietnam	391	7.39%	2.60%	3.49%	3.75%	1.20%	0.52%	0.78%	0.62%
China	518	9.81%	5.28%	3.14%	1.94%	3.59%	0.60%	0.95%	0.50%
Total	6207	15.14%	8.32%	5.02%	4.12%	3.80%	2.07%	1.64%	1.05%

Source: Authors' own elaboration from Booking.com.

From here, we can affirm that the countries that stand out for having a greater number of facilities for people with disabilities in relation to the group are Hong Kong, South Korea, Sri Lanka, Australia and New Zealand, where tourism has increased in the last few years and has a large network of hotel establishments.

As we can see, most of the hotels focus, to a greater or lesser extent, on wheelchair accessibility, followed by a toilet with grab rails. Less considered are those adaptations related to sensory disabilities.

If we go deeper, we can see that the wheelchair access is 15.14% in the Asian continent; Sri Lanka (32.14%), New Zealand (29.52%), Australia (25.97%), Hong Kong (25.93%), Indonesia (25.08%), South Korea (24.68%), Singapore (21.20%), Macau (17.15%) and Cambodia (16.71%) are the countries at the bottom of the list.

If we look at toilets with grab rails, which has an average of 8.32%, we find the same countries except Japan and Taiwan, which are on the bottom, and Malaysia and Cambodia, which are below the middle. Regarding the other facilities, we observe that the behaviour of the countries is more or less maintained in the same characteristics.

#### 4.3. Europe

As can be seen in Table 6, on the European continent, if we take wheelchair accessibility as a reference example, the countries that are above average are Ireland, Belgium, Spain, Portugal, France, Austria, Poland, the Netherlands, United Kingdom, Italy, Hungary and Turkey.

However, the layout of the facilities is different in each country. In Italy, the most outstanding feature is the emergency cord, at 19.22%, or in the Netherlands, where the toilet with grab rails (23.81%) is the main feature.

The countries that are least adapted in general terms are Russia, Austria, Greece and Denmark. Ireland is the region that stands out the most in all areas of accessible facilities, followed by the Netherlands, Portugal and Belgium.

**Table 6.** Distribution of the accessible installations for the countries in EUR.

Countries	Hotels	Wheel-Chair	Toilet with Grab Rails	Lower Sink	Higher-Level Toilet	Emergency Cord	Braille	Tactile Signs	Audio Guide
Germany	623	16.50%	14.85%	10.89%	10.78%	12.21%	1.32%	1.54%	0.44%
Austria	60	21.15%	2.88%	1.92%	0.96%	1.44%	0.00%	0.00%	0.48%
Belgium	157	29.95%	20.81%	12.69%	9.14%	6.09%	0.51%	0.51%	0.00%
Denmark	35	14.74%	8.42%	4.21%	3.16%	3.16%	1.05%	1.05%	1.05%
Spain	465	28.80%	14.72%	10.92%	6.96%	5.38%	3.96%	2.06%	0.79%
France	1170	21.30%	16.04%	12.87%	10.71%	2.15%	3.11%	2.09%	1.74%
Greece	154	10.47%	7.44%	5.35%	4.42%	6.74%	0.47%	0.93%	0.00%
Hungary	122	18.93%	10.70%	8.23%	5.35%	5.76%	0.82%	0.41%	0.00%
Ireland	118	30.33%	22.13%	15.57%	12.30%	15.57%	0.00%	0.82%	0.00%
Italy	1432	19.10%	16.20%	13.13%	14.34%	19.22%	1.69%	0.90%	1.69%
Netherlands	121	19.84%	23.81%	15.87%	12.70%	19.05%	2.38%	1.59%	0.79%
Poland	284	20.49%	18.31%	12.02%	12.02%	9.29%	1.09%	0.82%	3.55%
Portugal	187	25.47%	21.23%	7.55%	8.96%	20.75%	1.89%	1.42%	0.94%
Czech Republic	177	15.63%	10.34%	6.01%	6.25%	3.61%	0.00%	0.72%	0.00%
Russia	233	3.67%	2.42%	1.81%	1.11%	1.66%	0.50%	0.35%	0.20%
Sweden	83	15.92%	11.46%	3.18%	4.46%	12.74%	1.91%	1.27%	1.91%
Turkey	1063	18.21%	10.89%	9.16%	6.99%	7.05%	1.30%	1.36%	2.66%
United Kingdom	579	19.55%	14.73%	10.89%	7.80%	13.37%	1.86%	1.49%	1.98%
TOTAL	7063	17.06%	12.21%	9.09%	7.90%	8.18%	1.54%	1.18%	1.29%

Source: Authors' own elaboration from Booking.com.

#### 4.4. The Middle East and Africa

As for the Middle East and Africa region, Table 7 shows that the country that stands out the most is the United Arab Emirates, followed by Qatar and Israel, which are generally found above the average of the continent. The countries that are below average in all areas are Morocco and Egypt.

**Table 7.** Distribution of the accessible installations for the countries in MEA.

Countries	Hotels	Wheel-Chair	Toilet with Grab Rails	Lower Sink	Higher-Level Toilet	Emergency Cord	Braille	Tactile Signs	Audio Guide
Saudi Arabia	711	18.87%	13.89%	9.20%	9.96%	5.27%	4.02%	3.54%	3.35%
Egypt	92	19.35%	9.68%	7.53%	5.91%	3.76%	1.08%	1.08%	1.08%
Israel	197	28.95%	17.11%	10.53%	10.53%	4.82%	3.51%	4.82%	6.14%
Morocco	65	17.01%	8.84%	8.84%	6.80%	2.04%	0.68%	0.00%	0.00%
Qatar	145	31.37%	18.30%	12.42%	9.80%	11.76%	6.54%	1.96%	2.61%
South Africa	119	24.11%	18.44%	12.77%	10.64%	7.80%	1.42%	4.96%	4.26%
UAE	988	33.57%	21.85%	11.22%	10.63%	12.41%	3.08%	2.68%	2.68%
Total	2317	25.60%	16.83%	10.22%	9.84%	7.91%	3.30%	2.99%	3.03%

Source: Authors' own elaboration from Booking.com.

Mostly, and as seen before, the feature that is more present in these countries is wheelchair accessibility, toilet with a grab rail and low sink.

## 5. Discussion

First, we observe that people with functional diversity do not have the same number of options for accommodation in their trips as the rest of the population since they do not have access to facilities adapted for people with some type of disability, and this reduces the number of options for this group enormously.

Tourism is an activity that many people with disabilities are forced to sacrifice for the simple reason that it implies a cooperation of physical, mental and social abilities, in line with what they require [7].

On the other hand, in cases where the facilities are adapted, a problem remains in the conception of the people, both by the workers and by the customers. People with disabilities are often perceived as a "burden" [24] and disfavoured or overlooked in terms of accommodation and service.

It is difficult to establish a series of standards or needs since each person is different and may require different attention or needs. In any case, it is clear that if people with disabilities travel on their own, they should be provided with some form of assistance or help.

Moreover, the international variation in regulations and traditions regarding hotels makes it difficult for people with disabilities to determine which establishment to choose. This is because although the hotel might state that it is adapted or accessible, it is not a guarantee it really is accessible or the adaptation was done properly [48].

This study confirms that countries and regions in the world are adapted unevenly and, in general, countries with the highest per capita income are those with the best-adapted hotels, such as the United States and Canada in America, Ireland in Europe, Qatar and the United Arab Emirates in the Middle East, or Australia, Singapore and New Zealand in Asia and the Pacific.

## 6. Conclusions

The great domain of the hotel market worldwide makes up the vast majority of the international hotel industry in the Booking.com database, especially in Europe and America. This large sample allowed us to identify, with great clarity and reliability, the situation regarding adaptations in the hotel industry. Different from previous studies focusing on specific countries or cities with relatively small samples, we worked with a sample of 31,868 hotels, in which we identify some type of adaptation in 18,368 hotels.

Despite the numerous recommendations by public and private authorities to promote the adaptation of hotels to people with functional diversity, this analysis of the situation in the most touristic cities in the world shows how accommodations with adaptations are still a minority. Even in the countries with the highest level of adaptation, wheelchair accessibility is only provided in 30% of hotels and more specific accommodations, such as Braille, tactile posters or audio guides, are offered in just 5% or less of cases.

These types of adaptations are easier to include in the case of new construction or extensive renovation of establishments. They are even required for new construction according to the legislation of some regions. However, if the society intends to improve the adaptation rates simply by forcing new construction to do so, it will take decades to see how the poor percentages observed in this study improve.

The profitability obtained by hotels after making these adaptations is relatively low, which would explain the low implementation of various considerations and alterations. Therefore, public policies are necessary to obligate and/or subsidize this type of adaptations.

If we look at the accessibility of Booking.com hotels, we can see that most of its filters refer to facilities for reduced mobility and very few for sensory disabilities. However, Booking.com includes at least some adaptation for sensory disabilities. These limitations could establish future lines of study. Moreover, although it considers some sensory disabilities, the facilities available may not be present or widespread enough for a person to enjoy them without first conducting difficult research.

Adapting buildings architecturally to improve accessibility is good, and it is something that is already planned by law in many countries. However, it is only in reference to facilities that remain accessible to people with reduced mobility, which only includes those who are physically disabled. So how are the needs of people with cognitive or sensory disabilities addressed?

The areas that are most aware of the adaptability of tourist accommodation infrastructures are largely America, especially the United States and Canada. However, countries on other continents that stand out from the rest are the United Arab Emirates.

The hotel industry around the world has shortcomings when it comes to achieving inclusive tourism. There are countries where legislation requires the provision of adapted accommodation for people with disabilities. However, it focuses mainly on physical and mobility disabilities and leaves aside other types of cognitive or sensory disabilities, which

makes it impossible for people to travel and stay on their own. The public sector should further promote the goal of having quality tourism in which no one is excluded.

## 7. Implications and Limitations

The diversity of people with disabilities is very large (especially compared to older people, who represent a great potential demand for the tourism market). Therefore, the sector has to take advantage of this fact and benefit by offering its services in an inclusive way. Despite the investment this could represent, the profit would be very large. The issue rests in the fact that if all companies made the issue a priority, the sector would improve in economic terms, especially in quality.

This study could serve as a source of information for the hotel sector when adapting its infrastructures to the different types of disabilities to offer a service adapted to the needs of each tourist.

It should be noted that the results of the hotels obtained by Booking.com are based on those establishments that work with Booking.com. It is one of the most important in the world and has a volume of hotels that exceeds the total of all the OTAs in the world. However, it does not reflect the entire hotel industry. Hotels that do not work with Booking.com are not represented in this study.

The hotels themselves provide the information on Booking.com; the information is not a result of a physical inspection by the platform. Thus, there might be hotels with adaptations that have not reflected this characteristic in their Booking.com profile and, conversely, hotels that really do not have an adaptation but have included it in their Booking.com profile. In any case, this limitation, and the possible inaccuracies it may cause, is not different from those that are produced in traditional survey research.

Future research could possibly analyse if there is a correlation between the hotel category and the available facilities and if it is similar in different regions of the world.

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