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# Journal of Tourismology

*Journal of Tourismology,* 5(2): 113-126

**DOI:** 10.26650/jot.2019.5.2.0032
http://jt.istanbul.edu.en/

**Submitted:** 23.09.2019
**Accepted:** 27.09.2019
**Published Online:** 16.10.2019

RESEARCH ARTICLE

## Accessible Museums for Visually Impaired: A Case Study from Istanbul

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**Abstract**

Freedom to travel is a fundamental human right. Thus, disabled people should be able to travel. Disabilities are divided into subcategories, whereby vision disability is one of them. In the context of museums, there are some implementations for visually disabled people. However, there is still limited empirical investigation on the expectations, satisfaction, and challenges of visually impaired travelers. Therefore, the purpose of this study is to determine the expectations, needs, and challenges of visually impaired people visiting museums. In this vein, the study draws on a qualitative research approach employing data from visually impaired individuals to understand those individuals' perceptions, needs, and challenges. The study offers several practical implications to help museum managers enhance the experience of visually impaired visitors.

**Keywords**

Accessibility, Accessible museum, Visually impaired person, Museum tourism, Tourist expectations

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**To cite this article:** Istanbullu Dincer, F., Ozcit, H., Cifci, I., Sezer, B., Kahraman, O. C., & Sahinoglu, S. (2019). Accessible museums for visually impaired: A case study from Istanbul. *Journal of Tourismology, 5*(2), 113–126. https://doi.org/10.26650/jot.2019.5.2.0032

## Introduction

Disabled people are have been referred to as the next consumer niche (Prager, 1999). Traveling for relaxation, having a good time and getting around is a human right, and it is not only for non-disabled people, rather it is for all humans whether disabled or not (Ozturk, Yayli, & Yesiltas, 2008). That shows the need to discuss the requirements and motivations for disabled people. The reason for its importance is very simple, the group is substantial and unfortunately it is growing every day. At the United Nations 85th plenary meeting, some Standard Rules on Equal Opportunities for People with Disabilities were adopted. Some of these rules, for example, are related to the tourism sector (ENAT, 2007).

- Rule 1: Awareness-raising. Countries will increase societal awareness of the rights and needs of people with disabilities.
- Rule 5: Accessibility. Countries will ensure they provide accessible environments.
- Rule 10: Culture. Countries should ensure that people with disabilities are integrated and that they participate in cultural activities.
- Rule 11: Recreation and Sports. Countries will make areas for sports and recreational activities accessible for disabled people.

As Darcy (2002) stated in his study, there are socially constructed barriers that exclude disabled people from participating in social activities. Accessible tourism for disabled individuals may provide leverage to social well-being by maintaining empowerment to the aforementioned group, who in turn may become more life-bounded and active within the multifold dynamics of society at large (Devile & Kastenholz, 2018). Recent studies regarding disabled people's participation in tourism activities was limited (McKercher, Packer, Yau, & Lam, 2003; Shaw & Coles, 2004). Some researchers have examined hotel facilities and the views of hotels and travel agents (Ozturk, Yayli, & Yesiltas, 2008; Bulgan & Carikci, 2015; Wazzan, 2015) while some researchers have focused on the needs and motivations of disabled people - especially for physically disabled people (Ray and Ryder, 2003; Daniels, Rodgers, and Wiggins, 2005; Darcy S. , 2010; Kim, Stonesifer, and Han, 2012; Shaw and Coles, 2004; Blichfeldt and Nicolaisen, 2011) and limited studies were about the destination competitiveness and accessible tourism information system for disabled people market (Villa, Darcy, & Gonzales, 2015; Michopoulou & Buhalis, 2013; Darcy & Dickson, 2009). However, attending tourism activities is not only related to staying in a hotel. Furthermore, hotel facilities and access to the destination are essential factors for disabled people to feel comfortable during their vacation. On the other hand, to have a complete holiday experience taking part in social activities in the cities is important and museum visits are one of the most important methods of learning about destinations. At this point, the importance of museum access arises

and this issue deserves more attention from academia because visiting a museum is not only a touristic activity, rather it is a cultural activity for residents of destination.

Existing literature on accessible museums has focused on evaluating museums' accessibility from the side of museums and creating technologies to make the museums more accessible (Mesquita & Carneiro, 2016; March, Wiener, Naghshineh, & Giusti, 2005). The studies in this field are restricted to clarifying expectations, satisfaction levels, challenges, and needs of visually disabled people. The tendency has been focused on physical access rather than sensory access regarding museum accessibility (Argyropoulos & Kanari, 2015). Therefore, the aim of this study is to identify expectations, satisfaction levels, and the challenges of people with visual impairments when visiting museums. With this in mind, interviews have been conducted with authorized people in associations for visual impairments based in Istanbul.

Removing disabilities and facilitating access to the visually impaired in the travel context entails a close examination of such a collective experience from the perspective of visually impaired individuals. This approach consistent with necessities for extensive efforts to delineate expectations, satisfactions, and challenges of visually impaired travelers by the meaning of museum visiting experiences in contexts rather than to isolate and generalize experiences based on quantitative measures. The result of this study reveals reliable strategies to address needs of visually impaired individuals for more accessible museums by providing a body of knowledge to the tourism professionals that allows them to respond with more appropriate applications.

## Literature Review

There are over 1 billion people who have a disability in the world and the World Health Organization defines disability as an umbrella term, which covers impairments, activity limitations, and participation restrictions. This means 1 in 7 people. 200 million people need glasses or other low vision devices; 70 million people need a wheelchair, 360 million people globally suffer from profound hearing loss (World Health Organization, 2016). According to the Population and Housing Census in Turkey, (TUIK) proportion of Turkey's population which has at least one type of disability is 6,9%. This table shows that 5,9% of the male population and 7,9% of the female population are disabled (TUİK, 2011, s. 79). Disabled people are less fortunate to benefit from social services than persons without disabilities. Despite all these facts global awareness of disability-inclusive developments is increasing. The United Nations Convention on the Rights of Persons with Disabilities (CRPD) supports people with disabilities with full integration in societies (The World Bank, 2016).

The ICF (International Classification of Functioning, Disability, and Health) approved on May 22, 2001 during The World Health Assembly. According to ICF, *"a disability is a condition or function judged to be significantly impaired relative to the usual standard of an individual or group."*. Another definition of disability was made by The Equality Act. The Act defines a disability as *"a physical or mental impairment which has a substantial and long-term adverse effect on a person's ability to carry out normal day-to-day activities."* (The Equality Act, 2015).

Disability is a wide term, which can be divided into the following different sub-categories (Disabled World, 2016):

a) Mobility and physical impairments,
b) Spinal cord disability
c) Head injuries – brain disability
d) Vision disability
e) Hearing disability
f) Cognitive or learning disabilities
g) Psychological disorders
h) Invisible disabilities

Impairment and disability have close meanings. However, authors have come across some critical points between impairment and disability. Essentially, impairment is a functional limitation. On the other hand, disability is the loss of opportunities to take part in ordinary life, owing to physical and social barriers (Hughes, 1999).

Visual impairment impacts on all aspects of the quality of a person's life (Tadic, Lewando Hundt, Keeley, & Rahi, 2014). The World Health Organization (2016) stated that 285 million people are visually impaired and 39 million are blind. *"Visual impairment refers to a significant functional loss of vision that cannot be corrected by medication, surgical operation, or ordinary optical lenses such as spectacles"* (Department of Health HKSAR, 2008). Visual impairment can be mild or moderate but also includes total or functional blindness (National Eye Institute, 2016). Verma and Arora (2016) stated in their study that visual impairment is also known as sensory disability since vision is one of the five senses of the body. Some of the common visual impairments are a scratched cornea, scratches on the sclera, diabetes-related eye conditions, dry eyes, and corneal grafts. These injuries may result in serious problems such as blindness or ocular trauma (Disabled World, 2016). A legally blind person is the one whose visual field is less than an angle of 20 degrees. It has also been proved that ninety percent of individuals who are defined as legally blind have some useful vision or light perception, which means that total darkness is rare (The University of Texas In Austin, 2016).

A Disabled person's willingness to travel may vary according to their hearing, speaking, seeing, or orthopedic disabilities. Therefore, people's disabilities should be considered when designing indoor. The planning of a building for disabled people must be suitable in advance. However, some changes for disabled people can be implemented after the building constructed (Pehlivanoğlu, 2012, s. 28). Over the past decades, the awareness of accessible museums for disabled individuals has been increased. This increasing awareness has also changed the roles that museums need to have in the 21st century (Argyropoulos & Kanari, 2015). It is crucial to carry out a deep investigation of user requirements, to design a system to accommodate the needs of the disabled market (Michopoulou & Buhalis, 2013).

Before delving into the term of the accessible museum, it is necessary to understand the definition of a museum. The first definition of museum was made by the International Council of Museum (ICOM) in 1964. Since 1964, ICOM has updated this definition. According to the latest definition, "a museum is a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment" (ICOM, 2016).

Many previous researchers have focused on evaluating museums from the visitor's side, in the tourism perspective (Beeho & Prentice, 1995; Jansen-Verbeke & Van Rekom, 1996; Mafuya & Haydam, 2005; Nowacki, 2005; Braun-La Tour, Hendler, & Hendler, 2006; Tufts & Milne, 1999). Few researchers have focused on the features of the museums, such as accessibility. Mesquita and Carneiro (2016) identified strategies for museums to increase their accessibility for visitors with visual impairments. They analyzed 28 museums in London, Paris, Madrid, and Lisbon and demonstrated that European museums are more likely to implement strategies for mobility and available information. Further research on the experience of individuals with visual disabilities was carried out by Argyropoulos and Kanari (2015). They stated that the requests of visually disabled individuals are in contrast with one of the most critical duties of museums, which is the displaying of artwork and while protecting it at the same time. Asakawa et al. (2018) conducted a survey on visually impaired people to explain their experiences and motivations to visit and the accessibility problems they faced. Their study revealed that the participants are overly eager to visit the museums to satisfy their desire to learn and gain value the experience. However, it was found that they are not eligible to visit the museums more often because they were attached to friends, family or guides to visit the museum. Thus, it is recommended to provide navigation assistance as well as specific audio content to read to enhance the experience in the study. March et al. (2005) focused on creating accessible science museums for visitors with visual impairments with user-activated environmental

audio beacons. They introduced a system called Ping, which is a cellphone-based program and guiding people by navigating for exhibiting the museum. Sen, Celik Yetim and Bilici (2014) stated that firstly visitors should reach the destination to accessing the museums. Wiastuti et al. (2018) in their studies aimed to answer three following questions: (a) Do museums implement the concept of accessible tourism? (b) How is every dimension in accessible tourism implemented by each museum? (c) What are the minimum and maximum size applied by most museums? Results sorted as; information, transport, common needs, universal design, and accessibility. The authors provided recommendations to ensure that museums are in line with the concept of accessible tourism and to improve the expected accessibility performance. Besides, It is recommended to have a strategic plan for accessibility, emphasizing that applications can be structured according to need. Streachay and Annis (2012) gave the following suggestions regarding the accessibility of museums and parks for people with visual disabilities:

1. Braille signage designed appropriately, which should be placed in easily recognizable places.
2. Audio descriptions, large print, and braille should provide the same information as the standard printed documents.
3. Descriptive signs for artwork should be significant. Furthermore, large and sans-serif fonts should be used with highly contrasting colors.
4. Audio-described tours should provide navigation that allows the patron to walk around when listening to descriptions.
5. Staff should be well trained to interact effectively with disabled people.
6. Visual displays and electronic signage should have large fonts in highly contrasting color schemes.
7. Objects should be placed in front of high-contrast backgrounds.
8. Lighting should be designed to reduce glare.
9. Museums should provide access through senses other than sight alone. For example, some museums have a smaller tactile versions of the artwork to allow patrons to feel the shapes and the design.

Accessibility has gained more attention in European countries in the last decades. Considering Turkey, the term of accessibility is far newer. In 2013, the Istanbul Metropolitan Municipality launched "Accessible Istanbul for All Project." The aim of the project was to bring Istanbul on a competitive edge in global tourism. The project contributes mainly to the accessibility of museums in Istanbul (Ministry of Culture and Tourism, 2013). This project contains 21 museums in Istanbul, the Topkapi Palace, the Hagia Sophia, the Istanbul Archaeological Museum, the Chora Museum, the Great Palace Mosaic Museum, the Turkish and Islamic Arts Museum, the Istanbul Museum of the History of Science and Technology in Islam, the Rahmi

M. Koc Museum, the Istanbul Museum of Modern Art, the Istanbul Aviation Museum, the Sakip Sabanci Museum, the Istanbul Toy Museum, the Yildiz Palace, the Galata Mawlavi House Museum, the Miniature, the Panorama 1453 Historical Museum, the Basilica Cistern, the City Museum, the Istanbul Fire Museum, the Asian Museum, the Cartoon and Humor Museum.

Since 2013, the museums have become more accessible in Istanbul. The Istanbul Health Directorate has launched a Guidebook for Accessible Museums. This Guidebook focused more on physical accessibility. A few rules have been defined for people with visual impairments. Such as audio descriptions, large fonts and highly contrasting color schemes in visual displays, the ability to touch the artwork and guide dog implementations (Istanbul Saglik Mudurlugu, 2013).

## Research Methodology

Due to the exploratory nature of the study, the qualitative study approach was used to designate the expectations, satisfaction levels and difficulties of visually-impaired persons who visit accessible museums in Istanbul. A series of semi-structured interviews were used to obtain the data. Three open-ended questions were established through the literature review (Akıncı & Sönmez, 2015; Pehlivanoğlu, 2012):

- What is your opinion about the accessible museums in Istanbul?
- Are you satisfied with the guidance services in accessible museums?
- What are the visually-impaired person's expectations from the museums and what improvements can be made to accessible museums?

Within the scope of this research, the convenience sampling technique was employed. Two managers of visually impaired associations were initially reached. After these interviews were conducted, participants were asked to provide contacts with other potential informants. At the end of this process, interviews were conducted with 8 different participants from 4 different associations. After the reaching saturation for data, eight interviews were found enough and the interviews were terminated (Glaser and Strauss, 1967). The reason to choose these associations is that the most authorized people are in this non-profit association since they are responsible for the needs and claims as well as they are responsible for minimizing the challenges that visually disabled people are facing and all these authorized people are visually disabled.

The data were obtained from June to July in 2016. The interviews were recorded and transcribed verbatim with the permission of the participants. Right after the interviews, the acquired data was listened by researchers and computerized. A total of 30 pages were obtained after computerization. The data was initially evaluated

by researchers separately. After the evaluation process, descriptive analysis method was performed phenomenologically to finalize the analysis. Descriptive analysis offers the opportunity to provide convenience to researchers due to interviews, and observations can be organized and interpreted to be presented to the reader. The data can be classified according to the previously determined themes, summarized and can be interpreted easily. Table 1 shows the participants of this study.

**Table 1**
*Participants of This Study*

| | |
|---|---|
| Participant 1 | Bogazici University, Technology and Education Laboratory for the Visually Impaired-GETEM |
| Participant 2 | Bogazici University, Technology and Education Laboratory for the Visually Impaired-GETEM |
| Participant 3 | Beyazay Association of Turkey |
| Participant 4 | Turkey Visually Impaired Association Headquarters |
| Participant 5 | Altinokta Visually Impaired Association |
| Participant 6 | Altinokta Visually Impaired Association |
| Participant 7 | Altinokta Visually Impaired Association |
| Participant 8 | Altinokta Visually Impaired Association |

## Findings

**What is your opinion about the accessible museums in Istanbul?**

The result showed that there was a general opinion about the "accessibility" of the accessible museums in Istanbul. The participants stated that there were many deficiencies in accessible museums and all attendants criticized the accessibility of the museums in Istanbul. In addition, according to attendants, accessible museums in Istanbul were constructed for physically disabled people not for all disabilities. Perspectives of visually impaired people, it was stated by all interviewers that the historical artifacts exhibited inaccessible museums could be the limitations of the original ones. With customization of artifacts according to visually impaired individuals' sense organs respectively tactual sense, sense of hearing even the sense of smell can help to re-identify elements.

On our topic, **P1** specified that: "*Firstly, either I can touch the historical artifacts, or it must be a replica that I can touch in museums."* Likewise, with the following statement **P2** showed the importance of sense of hearing besides the tactual sense "*There are two important organs for visually-impaired people. One is hand; the other one is ear. There is a school named "Gören Eller." Therefore, one reads the letter with his hand and uses the devices with his hands. These two forefingers are maybe the most important organs after the brain and heart, so it is very important use this effectively."* In addition to this **P3** stated that: "*I remember what I touch. For instance, I can say sense of smell and heat. We can add the heat as a touching sense."* With

these statements, **P3** emphasized the importance of the sense of smell and the heat. In addition to all these, unlike the other participants **P4** stressed the depth perception. About the depth perception **P4** stated the importance of the education of depth perception to visually-impaired people with these words: *"The depth perception is not taught for visually-impaired* people *in Turkey. For this reason, even if the statues were made as a true copy, visually-impaired persons cannot comprehend the historical artifacts with touching. For example, distinction between Jesus statue and Virgin Mary statue all but impossible for visually-impaired persons in Turkey."*

**Are you satisfied with the guidance services on accessible museums?**

It was stated that visually impaired *people* could not visit the museums alone. In addition, accessibility practices in museums were not suitable for visually impaired people to visit alone. Based on accessibility, people with disabilities have the right to visit museums alone as others, but as stated by attendants they could not visit the accessible museums in Istanbul alone. They visited museums with a guide or a companion. In addition to this, the result also showed that there were different opinions about guidance services.

**P1** expressed these statements about the importance of education for guides on the visually-impartments: *"Guides should not tell the place like there is something here and there. They need to train the guides. Visually impaired people can join a tour so you should train guides for them. How can you express the details of something in museums? What it means to tell visually impaired persons like "there is something."* About the qualifications of guides **P4** stated that: *"Guides have an impact like hearing on radio or television for us."* Different from these statements, **P5** indicated that the guides were sufficient: *"It is impossible to visit museums alone. ... You can find the guides sufficient."* **P6** commented on guides' sufficiency with this statement: *"Guides have to narrate to 15-20 people at one time, it is very hard to ask a question and also there is a limited time to guides' descriptions, so the benefit for us is limited."* Guide services were nor enough for all disabled people as stated by **P7**: *"Guide services were enough for who can hear but it was insufficient for the deaf-mute. Because deaf-and mute people cannot understand what the guides tell, it would be more beneficial to make some adjustments for all disabilities."*

**What are visually impaired peoples' expectations from the museums and what improvements can be carried out for accessible museums?**

There was a unified opinion about the accessibility of museums, the expectations of visually-impaired people were that to necessary regulations for all disabilities should be made. Specifically, to understand the meanings of historical artifacts for visually-impaired people it is important to make regulations that are conducive to

an understanding with the sense organs. Besides the regulations of accessibility, it was addressed that the ability to understand the details should be taught for visually-impaired people.

**P1** stated the importance of the sense organs for understanding historical artifacts and their expectations with these statements: *"As a visually-impaired our expectations are basically sense of touch, sense of hearing and understanding. ... Before the visitation of museums, I need to access their brochures. ... In this case they are thinking about visually-impaired persons if they send us brochures typed in Braille alphabet. ... For example, if they made an announcement on their website and put a description of the pictures if they think this we could tell that they made a regulation for me."* In addition to this **P5** added these statements: *"We need right to travel alone. We need roads with embossed. ... it would be better for visually-impaired persons if there is audio system that helps visually-impaired persons to navigate where they are and what is around."* **P4** had a different point of view, and not only regarding the arrangements for accessibility in museums. He suggested education for visually-impaired persons to understand the artifacts in the museums with these statements: *"Ministry of culture and tourism think in an economic way in this as usual. The entrance of museums is free for us even it is free for our companion. I wouldn't mind if there is entrance fee it is not important for me to enter museums, I am happy in the museums, I need to be at peace with myself for this they have to arrange the place and I need and education to gain benefit from the museums."* For the improvement of accessibility of museums, **P3** stated these suggestions: *"They can make a little cabin and you can make simulations which I can sense all the things. It is ever so easy. For example, visually-impaired persons can enter this cabin and they can have everything at one's fingertips so you can solve everything with this simulation. You need to define the aim well."*

## Conclusion

Museums are important foundations that make a significant contribution to protecting countries' corporeal and moral heritages and have an important impact on the development of countries. Whether they are disabled or not, every person has a right to visit museums, have a great time and learn. However, disabled people have both physical and motivational challenges when visiting museums. For visually-impaired persons, these visits bring different challenges. Therefore, it is important to investigate the sufficiency of the arrangements in museums for visually-impaired persons.

In this study, most of the participants criticized accessibility and indicated that there were many deficiencies in the museums in Istanbul. Also, the participants stated that there was a traffic problem in Istanbul. Similarly, Şen, Çelik Yetim and

Bilici (2014) stated the importance of transportation. The most important expectation of visually-impaired persons was the making of arrangements for their sense of touch, sense of hearing and sense of smell. For visually-impaired persons it is more important to understand the artifacts and understand the meanings of these objects rather than visiting the museums. Therefore, it is necessary to make arrangments for visually-impaired persons' other senses. The sense of touch helps to understand an object and helps to remember it later for visually-impaired persons. For this they need education in depth perception. However, there is no proper education for visually-impaired persons about creating a depth perception in mind. Thus, visually-impaired persons cannot identify the objects by touching. if they would have this training, visually impaired individuals could have visualized the objects by touching their imitations in their minds. Streachay and Annis (2012) suggested braille signs designed appropriately to guide places, audio descriptions, large prints, and well-trained staff for accessibility of museums. As March, Wiener, Naghshieneh, and Giusti (2005) focused on to create user-activated environmental audio beacons for visually impaired visitors. In addition to this Akıncı and Sönmez (2015) stated that improving physical conditions for museums can please people with disabilities.

Another important issue for visually-impaired persons is visiting museums alone. Participants indicated that visiting museums with a group of people who do not have any disabilities is not providing a good experience because the guides cannot provide narration in a way that the visually impaired can understand and giving meaning. All participants stated that there should be a similarly visually-impaired guide who knows how to communicate with visually impaired individuals in order to provide a meaningful guidance service in museums. Thus guides who do not have a visual impairment are not adequate even if they were trained to serve to guide to visually-impaired people. The arrangements should be done for visually-impaired persons to visit museums without a companion. Naghshieneh and Giusti (2005) suggested in their study that a cellphone-based program be introduced to allow people to navigate the museum.

Besides the expectations of arrangements for sense organs, participants indicated that the required physical conditions were not provided either. Similarly, Dogru, Kaygalak, Miral Cavdırlı and Bahçeci (2014) stated that the most complained about the subject were physical conditions, the support of the infrastructure and technical equipment for disabled people. Also it was indicated that although all people have a right to do touristic activities, these activities have not been designing for disabled people which is inhibiting their participation (Yau, McKercher, & Packer, 2004; Yaylı & Öztürk, 2006, s. 87). In addition to this it has been suggested that arrangements must be made before the construction of the building and that it is designed for all disabled people. As stated by Yau, McKercher, and Packer (2004), participating in

tourism activities for people with disabilities is more than just removing physical barriers, it is a metaphor for recovery.

There are a number of limitations to this study. First, in this study, the interview method was used and only eight participants took part. Also the convenient sampling method was used. For any future research being conducted in this subject, it would be desirable to add not only visually-impaired persons but also other disabled persons.

**Grant Support:** The authors received no financial support for this work.

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Wiastuti, R.D., Adiati M P and N S Lestari, R D Wiastuti et al 2018 IOP Conf. Ser.: *Earth Environ. Sci.* 126.