Blind and visually impaired people's experience at the Helsinki airport

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Abstract

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This project is a research-based thesis that focuses on the air travel of blind and visually impaired people. The report starts off with an introduction, where the author described her choice of topic. The author states that the thesis is offered to Finavia and services partners, and to the companies that work for the welfare of blind people. The objective of the report was to improve the experience of blind and visually impaired people at the Helsinki airport.

The theoretical framework of the report has three dimensions: the airport environment, visual impairment, and customer journey. The author begins by describing the history of civil aviation and how the International Air Transport Association was born. Afterwards, proceeds to write about airport's ecosystem. The topic of visual impairment is crucial for developing results. Navigation within airports was found to be the most challenging, as well as getting knowledge about the environment. Furthermore, disabilities that lack visibility impact the trip. Articles used for the theoretical framework suggest that what is currently needed is awareness and assistance of the navigation needs for the travelers with visual impairment despite the availability of required infrastructure. Since the project is related to experience, theories on customer journey are mentioned. For example, mapping and sorting. The author also talks about the customer journey at the airport from the pre-travel stage until the boarding and disembarking stage.

The author has chosen to use the semi-structured interviews for the qualitative research. There was a total of six respondents and two sets of questions. The author explained how the interviews were conducted and how the data was managed. The answers during interviews were somewhat similar and did not have many discrepancies. As an additional research method, the author has decided to use benchmarking. There was a comparison of the Helsinki airport and the Dubai International airport. The author concludes that Helsinki airport has many opportunities for development and suggests getting inspired by the way Dubai International airport works with disabilities.

To analyze the results content analysis was chosen. Based on theory, the writer has divided the answers into four themes that ran across most of data. The themes were experience, accessibility, issues, and airport.

Through thorough analysis and the choice of methods for the project, the research outcome has been reached with the implementation of the purchasing stages theory. The author described how the stages of the purchasing process affect each other and what should be done in each stage. Moreover, to conclude, the author raised awareness about inclusivity being a part of sustainability because the creation of inclusive travel should be a normalized occurrence in tourism.

Key words
Travel, visual impairment, airport

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1   Introduction

Awareness about sustainability is growing, and while inclusivity is categorized under social sustainability, the author of this thesis thought that talking about a minority group would be valid and necessary. Have you ever thought about how blind people fly across countries? The luxury of just hopping on the plane ought to be valued by people because a "simple" gateway looks different for some. The research investigates how the experience of blind and visually impaired people at the Helsinki airport can be improved.

Blind people are a minority whose troubles are rarely discussed. According to the World Health Organization (WHO), approximately 285 million people worldwide are visually impaired, of whom 39 million are blind. A report by the Finnish Federation of the Visually Impaired (2020, 5) states that there were around 17,922 blind people in Finland as of 2020. Even though the numbers are not so high in Finland in comparison to other countries, blind and partially sighted individuals still face challenges in areas of employment, education, and of course accessibility.

My project is research oriented. The research investigates the experience of blind and visually impaired people at airports. The purpose of this research is to raise awareness and come up with ways to improve the experience for blind people. I became interested in the topic during my exchange semester in Spain. I have met a person who works with disabled people. He showed me videos from their trips with them and described his responsibilities. It was an interesting topic for me because I have never thought about it. That was when I accidently stumbled upon this organization ONCE in Spain. The Spanish National Organization of the Blind, commonly known as the ONCE, is a Spanish foundation founded on December 13, 1938, to raise funds to provide services for the blind and people with serious visual impairment (ONCE 2023). From there on, the topic was born. Firstly, it raises awareness about a minority group. Furthermore, since inclusivity and diversity are talked about more these days, it is vital to talk about disabled people and make their travel journey easier and more accessible. For individuals without disabilities, it is already somewhat difficult to travel across countries due to cultural differences and language barriers. So, it is unimaginable to travel in complete darkness. Secondly, the Helsinki airport is widely used, so it is essential for them to set an example.

1.1   Target group

I offer my thesis, so that Finavia and its service partners, and people who work with the blind and partially sighted can get inspired by my research and compare my discoveries with what they are doing now. I believe my improved journey can highlight what needs to be redeveloped. The main target group is the Helsinki Airport. Also, I am sure that when it comes to research, organization,

communication etc., my skills will grow greatly and therefore help me in my future position. In conclusion, the benefits are visible from my side and from the target group.

1.2 Objective of the research

The objective of my thesis is to improve the experience of blind and visually impaired people at the Helsinki airport, through qualitative research including semi-structured interviews with individuals with eyesight impairments and people who work with blind and visually impaired. What is the most difficult part about their journey? How are they assisted? All in all, I aspire to investigate this topic and come up with ways make their travel journey as smooth as possible.

In the beginning I wanted to work with airlines on my thesis. However, after some difficulties with getting a reply from them, I have decided to keep my research more general. So, from "Blind and visually impaired people's experience with Finnair/Norra/AirBaltic" to "Blind and visually impaired people's experience at the Helsinki airport". I do not intend to talk about every part of the experience. The parts that I would like to highlight are the navigation at the airport and the assistance of people with eyesight issues. If I try to talk about everything at once, the research will be too broad without concrete facts. To develop a journey that will work, it is essential to set limitations in terms of the research.

2   Airport environment

The first part of the theoretical framework focuses on the airport environment to get a better understanding of how the aviation industry works.

"Civil aviation – flights and aircraft used for personal and business purposes, such as transporting goods or passengers, rather than for military purposes" (Cambridge University Press & Assessment 2023). Commercial aviation is a part of civil aviation. It transports not only passengers but also goods. Figure 1 gives a descriptive visual of civil aviation activities.
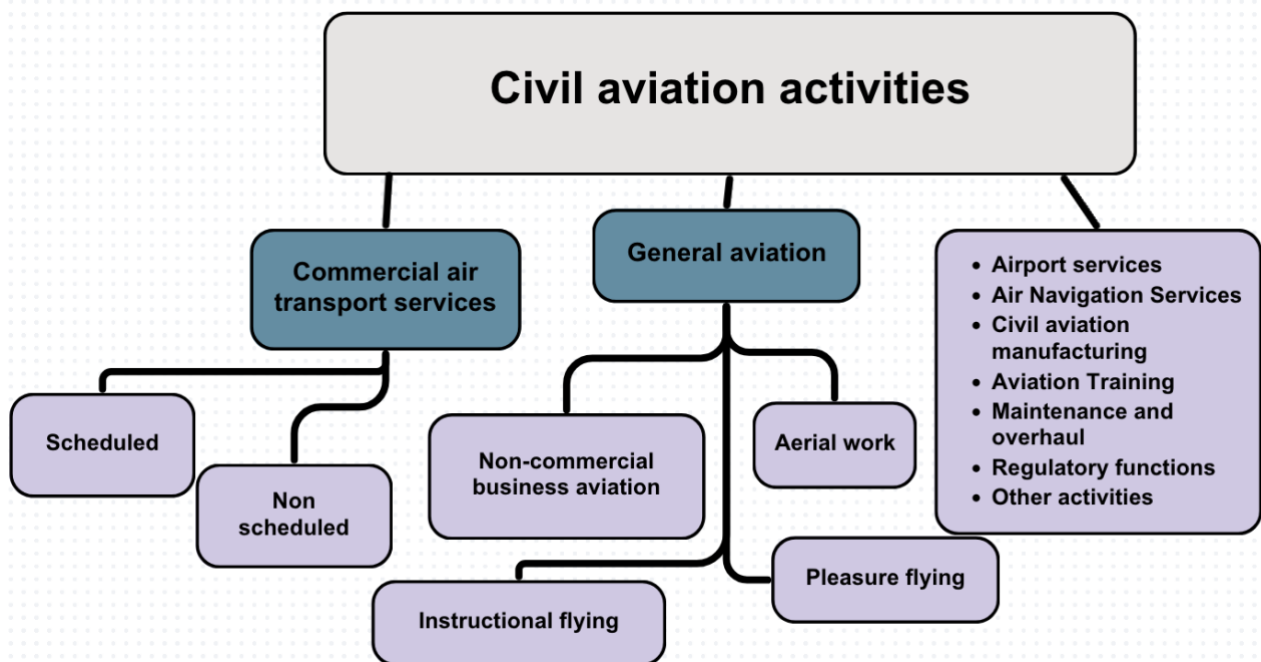

Figure 1. Civil Aviation Activities (Adapted from International Civil Aviation Organization 2023, 4)

Before World War I, masses had realized that the emergence of airplanes added a new section to the means of transport, which could no longer be embraced only nationally. Therefore, a conference on international air law code was organized by France and held in Paris in 1910. 18 European states have attended the convention and laid down basic concepts of aviation and its legislation. (International Civil Aviation Organization 2023.)

As a part of the international re-organization following World War I, the Paris Convention found ICAN (The International Commission for Air Navigation) on October 13, 1919. Even though airplanes traveled across Tampa Bay, Florida in the USA in the beginning of 1914, 1919 is the year when the international air industry originated. 1919 is also the year when the ancestor of the current International Air Transport Association was born. To form the International Air Traffic Association, officials of five air transport organizations from Germany, Norway, Sweden, Great

Britain, and Denmark signed an agreement in the Hague, Netherlands. Continuously until 1919 and afterwards, most of the world's commercial air transport affairs were centered around the carriage of airmail. Civil aviation was developed thoroughly 1919-1944. It helped to create a base for the Chicago Convention. (International Civil Aviation Organization 2023.)

While the prosperity of the civilian air transport development was delayed by the Second World War, the progress during 1940-1945 was fundamental for the achievement of the resulting global framework now operated through international Civil Aviation Organization (International Civil Aviation Organization 2023).

2.1   Airport as an ecosystem

Airports are a type of business that grows rapidly and allows one to see, like a lens perception, the variations happening in the global economy. Over a century of civil aviation evolution shows that management systems develop to adapt to the changing requirements of technology, practices and business model of passenger and cargo aviation. Passenger and cargo flow is extending at a geometric pace and is changing the purposes of airports. There are around two thousand airports worldwide, including only those run by entities connected with the organization Airport Council International (ACI). They do different tasks and aim to comply with the expectations of the business in numerous forms. (Niemczyk, Walków, Trzaska & Trzaska 2021, 108.)

Ground handling is a fundamental part of airline operations. Flight lines are busy areas in which aircraft, Ground Service Equipments (GSE), and individuals are always motion in all weathers. Present-day challenges comprise safe and timely performance, and labor scarcity. IATA tries to guide the industry into improved safety and operational cost-effectiveness in ground handling by placing standards, driving sustainability, and driving the execution of worldwide solutions. (International Air Transport Association 2023.)

To understand the airport ecosystem, one should understand what an ecosystem is. "An ecosystem is a geographic area where plants, animals, and other organisms, as well as weather and landscape, work together to form a bubble of life" (National Geographic 2023). An airport is a bubble of life in a way as well. Since this research is based on the experience at the airport, it is crucial to define what the airport ecosystem is. "An aviation ecosystem refers to processes within which all players from airport operators, airlines, government authorities, and other stakeholders are involved in the operations, conduct, and function of the aviation-related activities" (Desmond & Zhahao, 2022).

The three main sections of the aviation ecosystem are airport ecosystems, fuels, and aircraft. Classifying the various subsystems, interconnections and energy-related effects is mandatory to provide focus and sort the biggest and most dominant decarbonization pathways that reduce inadvertent repercussions to adjacent activities and groups. (Oakleaf & al. 2022, 5.) In the latest airports, the creation of new solutions that can possibly form the exposure of new, non-existent airport functions is infrequent. For that reason, it takes the structure of a controlled ecosystem form and not affairs to provide conditions for establishing a spontaneous ecosystem. It is impacted by the governed nature of the whole sector, reliability on airlines' business models, high level of spending and long construction series, and the sector's predisposition to natural and technological catastrophes. (Niemczyk & al. 2021, 113.)

2.2 Airport evolution

In the beginning of civil aviation, airports were considered as a station. Airplanes left the grassy landing pads and flew back to land on them. They were chaperoned by a waiting area and a ticket booth. Moreover, they were usually near fields, green spaces, and farms. As an airport station the main function is the check-in and departures of passengers. Easy explanation: arrive - fly away. Airports as airport stations exist nowadays as well. Those are mostly regional airports. They support direct flights, traditional and low-cost airlines. (Niemczyk & al. 2021, 62.)

Later the airport progressed into a transfer hub. There was an ownership separation of air transport from ground handling of passenger traffic in most countries of the world, several decades ago. This matter resulted in the airport becoming an independent entity that operates on strategic goals. After 1945, civil aviation developed further. Later, bigger airplanes appeared, powered by jet engines, which made it feasible to fly a lot of passengers over longer distances. This led to the hub-and-spoke model development. It includes airlines with smaller planes from smaller airports transporting customers to a larger airport. The main target group of the hub is transfer passengers and network carriers. This type can be described as "fly-in - wait- fly away." People waited for a long time at transfer hubs, which resulted in a notable expansion of non-aviation infrastructure - stores, restaurants, cafes, hotels, cinemas, and entertainment venues. (Niemczyk & al. 2021, 63.)

Finally, the airport became an AirportCity. Niemczyk & al. (2021, 63) talk about civil aviation's prosperity in the upcoming years with transfer relations, which resulted in the airports' "independence." The operating hubs have become transfer points that are also good for doing business. Network connections and direct connections distinguish the airports working in the AirportCity business model – often in another terminal adjusted to low-cost carriers' needs. A characteristic attribute of the modern AirportCity is designing from a broader outlook – the business

ecosystem. An example of an airport that operates in the AirportCity model is Amsterdam-Schipol airport in the Netherlands.

Next chapter of the theoretical framework is crucial since it describes visual impairment and how blind people and people with bad eyesight travel.

3   Visual impairment

Salvin (2016) states that quite many individuals have visual issues at some point in their lives. Some can no longer see objects in the distance. Many people have problems reading small letters. Those sorts of defects are usually treated with contact lenses or glasses. However, when several parts of the eye or brain that are crucial for processing images become diseased or defected, serious or complete loss of vision can happen. When this happens, vision cannot be restored entirely with medical care, surgery, or corrective lenses like eyeglasses or contacts. (Salvin 2016). Visual impairment is defined as any kind of vision loss by experts. It ranges from complete blindness to partial vision loss. (Salvin 2016.)

Organizations such as the Finnish Federation of the Visually Impaired work to assist the rights and health of blind people in Finland and promote greater accessibility and inclusion in society.

3.1   Assistance

In the "An innovative smart glass for blind people using artificial intelligence" article Gollagi, Bamane, Patil, Ankali, Akiwate (2023, 433) explain that vision is the most critical part of human physiology since 83% of the information a person gets from their environment comes through their eyes. The walking cane, usually known as a white cane, and guide dogs are the most traditional and well-known mobility aids for individuals with vision disabilities. The range of movement, the amount of information acquired, and the need for exercising are the main limitations when it comes to walking sticks and support dogs. Modern technology is rapidly upgrading with new features, and both the hardware and software fronts have the power to offer capacities for intelligent navigation. To assist the blind in managing on their own, a lot of electronic travel aids have been developed in recent times. The existence of too many obstructions can be troublesome even for those without sight deficiencies, but it is worse for those who are blind completely. People with visual impairments often need support from the outside world. For example, trained dogs, people, with specialized technological devices that act as decision-support systems. Already existing sensors can identify and catch things that appear on the floor out of nowhere. However, there is a high risk from things that are unexpectedly deep or from objects that are higher than the waist level, also staircases pose a threat. Blind people consider it very challenging to travel alone. They are afraid of running into danger or getting lost. (Gollagi & al. 2023, 433.)

3.2   Navigation within airports

Qualitative research using focus groups to study passenger experiences was made by Kay Atkin, Arun Ulahannan, Paul Herriotts, and Stewart Birre in 2023. A recruitment strategy was used with a

snowball effect. If one has traveled by air and has reduced mobility, they were eligible for the research. The focus group went through the process of air travel journey step by step. 15 participants, 7 participants were male and 8 were female. Out of fifteen individuals, there were 7 wheelchair users, 4 mobility aid users and 4 non-visible. The most popular topics were related to boarding and exiting the plane. In this part of the journey diverse themes were touched upon. For instance, being forgotten at the gate or prolonged delays, first on-board policy not being followed leading to lack of decorum, inept handling and transferring onto the airplane seat procedure, and unsatisfactory seat location or type. Long delays were greatly linked to the possibility to access toilet facilities on board. Getting off the plane was related to anxiety about the safety of the return of mobility aids and possible damage. Personnel awareness of medical gadgets arose as a subject during safety with a lot of participants talking about embarrassment and humiliation. The visibility of disability was an issue in all groups with individuals with the absence of visible aids finding it trickier to access assistance.

Atkin & al. (2023, 576) conclude that the struggles disabled passengers face are compound and diversified. Reported problems involve various spheres included in the whole journey from communication among organizations, physical framework or tool accessibility, organizational policy, and instructions, through to the one's perception. The most important conclusion is that each disability is unique, their needs vary, and assistance should be reactive to that.

Key findings from the research by Atkin & al. (2023, 576):

• Different levels of mobility impairment cause dissimilar trials.

• Boarding on and off the airplane is a challenging journey part in particular.

• Disabilities that lack visibility impact the trip. Hence, generating challenges in gaining assistance for those whose disability is not visible and improved interactions for those whose disability is visible.

• Security workers require better understanding of common medical devices they may come across during searches.

It is troublesome for people with visual impairments to have a liberated air travel journey despite the efforts to increase airport accessibility nowadays. Therefore, they heavily rely on the assistance of airport staff to get them from the ticketing booth to their gate. This type of service guarantees one's ability to travel but shows many restrictions in comparison to sighted people's experience. (Guerreiro, Kitani, Ahmetovic, Asakawa, Sato 2019, 1-2.) For instance, prolonged waiting times and the ineptitude to explore the airport in search of restrooms, cafes, stores. Being able to understand those restrictions is mandatory for designing technologies that can improve airport

accessibility. Nevertheless, there is not enough knowledge about the point of view of people with eyesight impairment when it comes their travel experiences. In the given material, the authors presented two focus groups with visually impaired individuals. The reader was presented with an in-depth discussion about the needs, preferences, and the challenges blind and visually impaired people face in airports. (Guerreiro. & al. 2019, 1-2.) Navigation within airports was found to be the most challenging, as well as getting knowledge about the environment. Also, participants stated a noticeable number of uncomfortable scenarios correlated to the inability to travel freely at the airports, after already being escorted to the gate. Airports have implemented solutions to support indoor wayfinding. However, there is a lack of systematic assessment to evaluate the effect of such technologies. Now, many airports have location-based gadgets aiming to improve user's experience, covering navigation assistance. Most of the work is still focused on revolutionizing sighted people's journey since the navigation does not take into consideration the needs of those with visual impairment for greater accuracy and precise navigation guide. There are still exceptions that focus on navigation for visually impaired people, but there is not enough knowledge about their performance and a lack of investigated assessment to comprehend their effectiveness. (Guerreiro & al. 2019, 2.) According to Guerreiro & al. (2019, 2) They have implemented a navigation system for individuals with visual impairment directed towards a liberated ability to move at the Pittsburgh International Airport. They adapted a smartphone navigation application that uses Bluetooth Low Energy alarms for accurate localization indoors. To evaluate its influence, the researchers held a real-world user examination at the airport where a total of ten people with visual impairment navigated four pertinent paths for their air travel experience. In the results, it was shown that despite the complexity of the environment, six users covered the routes without any error in navigation while others had very few. Furthermore, their most relevant necessities like finding the closest bathroom or going to a cafe while waiting at the gate, were attained in about one and four minutes. That was the first systematic assessment of an active indoor navigation system for customers with visual impairments at airports. The study represents BLE technology as a strong method to increase the liberty of its users. (Guerreiro & al. 2019, 7.)

The findings from the report suggest that the main issues that are experienced by people with eyesight impairments at airports happen after being transported to their gate. Not enough knowledge about their current environment leads to anxiety and to the fear of getting lost. The only option left is to sit and wait. To empower them with more independence, BLE beacon-based navigation system (NavCog) was installed at the Pittsburgh International Airport. The authors tried to analyze the effect. The study presented us with the results that visually impaired were able to manage with various navigation challenges of airports. It is not forgotten that most airports already have BLE beacons, or they plan on equipping them. Moreover, other localization approaches that are based on Wi-Fi may become popular alternatives in the next years. That approach can ease

the deployment and support of applications such as NavCog. What is currently needed is awareness and assistance of the navigation needs for the travelers with visual impairment despite the availability of required infrastructure. (Guerreiro & al. 2019, 11.)

4 Customer journey

According to the title of this research, we are talking about experience of blind and visually impaired people at the Helsinki airport. Those individuals are customers at the Helsinki airport. Moreover, the objective of the author is to improve their experience. Thus, defining customer journey is essential to achieve the improved experience.

"A customer journey refers to the path of interactions an individual has with your brand, product and/or services. It describes both direct interactions such as contacting a customer service team, to indirect interactions such as hearing about a brand at an event" (Bynder 2023).

The focus of customer's perspective has altered from "marketing a product" to "creating an experience". The marketing team guaranteed optimal sales by utilizing the marketing mix to impact demand. Customer experience determines accomplishments and drawbacks. It is crucial for the pattern change in the digital age. Nowadays companies aim to have a relationship with a customer, they also avoid losing sight of them because of the digital environment's entanglements. A firm that is well-organized knows what its customers desire and how they want to be served. For this to be feasible, the knowledge about the customer journey and how consumers undergo the journey is necessary. Mapping the customer journey can be a great asset. It can be an instrument for prediction of the steps the customer is going to take, so they can help them with their needs. (Harris, Pol & van der Veen 2022,3.) Customer journey mapping is, at first sight, an apparently simple concept. The goal is to create a visual depiction of a customer's interactions with an organization. "Given that customer experience is created through the customer journey, the customer journey map then charts this experience over time and space, and across myriad touchpoints" (Harris & al. 2022,13). The phrase "customer journey mapping" appeared in the early 2000's as an answer to acknowledgement. Hence, the overall goal of customer journey mapping is to enhance customer experience. Since the purpose of mapping is to expose the customer journey, the steps taken during the journey should not be defined by theory but should materialize from the mapping process. Nevertheless, the map can be arranged throughout a sequence of high-level steps that the person is expected to or known for sure to take. For instance, answering to an email, buying, looking for customer support etc. (Harris & al. 2022,13.)

4.1 Mapping and sorting

Customer journey mapping usually includes:
1. Consumer activities. For instance, looking for products and services, buying something, comparing prices, reading reviews, searching for assistance or customer service. Purchasing or asking for customer support involve direct interaction with the company. When for example

going to a shop or making a shopping list are outside the company's control. (Harris & al. 2022,14.)

2. Organizational activities. Customer assistance at the store, email management (special offers, ads etc.), customer support (phone, email, online chat), online orders arrangement. (Harris & al. 2022,14.)

3. Physical and digital touchpoints. Some touchpoints can be owned by the firm. Other touchpoints might not be in company's possession, but they can be under organizational control. (Harris & al. 2022,14.)

4. Time. The passed time included in the customer journey map can range from minutes to years. The time slot of the map should match the consumer's activities. (Harris & al. 2022,14.)

Customer experience can be sorted into three stages:

1. Prepurchase is the first phase which includes all interactions that customers have with the brand prior to a purchase transaction. Traditional marketing writing has identified prepurchase as actions: need recognition, search, and consideration. Theoretically, this phase could comprise the consumer's whole experience before purchase. However, in practice, this stage covers the customer's experience from the moment the desire is recognized to the moment when that desire is satisfied with a purchase. (Lemon & Verhoef, 2016, 76.)

2. Purchase is the second phase. This phase encompasses the contact a customer has with the brand and its environment throughout the purchasing process. It can be identified by behaviors: choice, order, and payment. Since there are many touchpoints, it can result in information overload. Hence, concepts like choice overload, decision satisfaction, purchase confidence ought to be taken into account. (Lemon & Verhoef. 2016, 76.)

3. Postpurchase is the last stage. It covers the interactions a consumer has after the purchase. This phase contains: usage of the source, postpurchase interactions, service requests. Like the prepurchase phase, hypothetically, this phase could expand temporally from the purchase and until end of one's life. While in practice, this stage includes features of the consumer's experience that follow the purchase and relate in somehow to the brand or product/service. The product/service itself turns into a critical touch point during this stage. Modern research in management has expanded this procedure to add the "loyalty loop" as part of the whole customer decision journey, indicating that throughout the postpurchase phase, a trigger might transpire that can lead to customer loyalty or begins the process once more. (Lemon & Verhoef. 2016, 76.) Figure 2 sums up all the stages together adding components of previous and future experience.
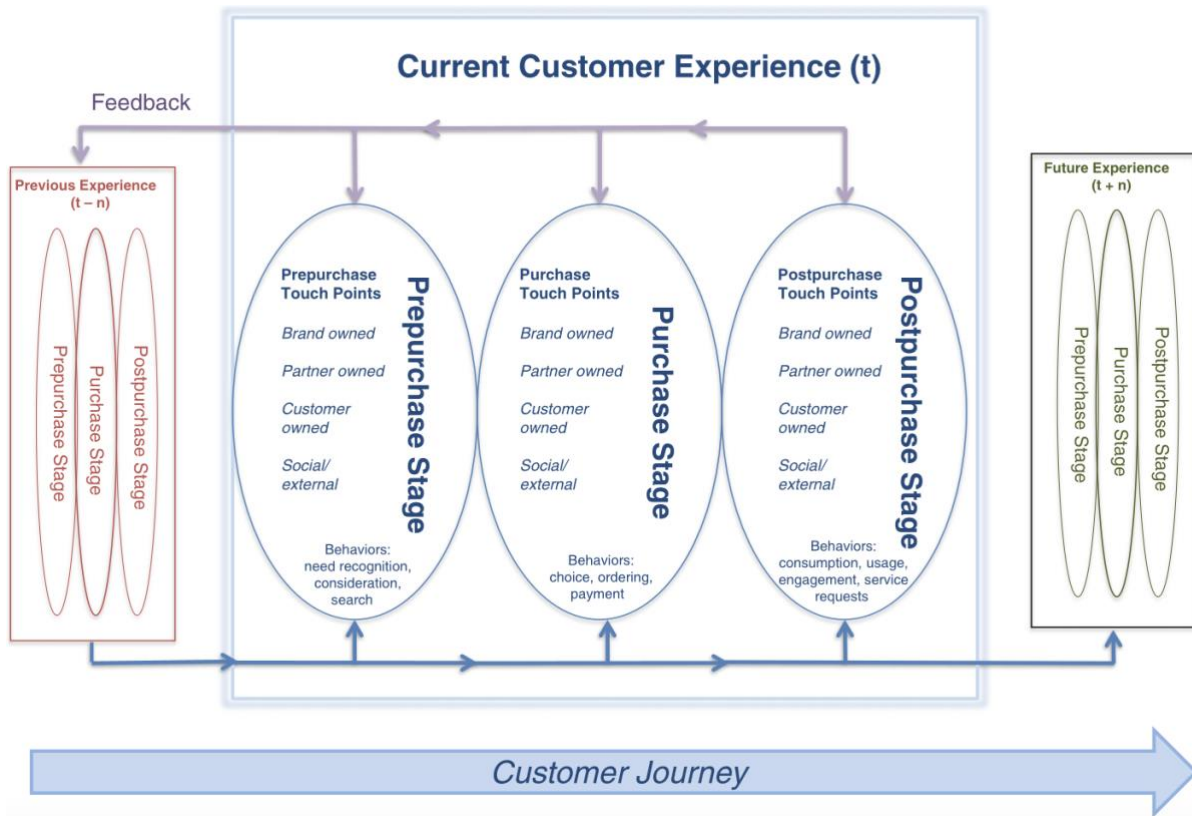
Figure 2. Process Model for Customer Journey and Experience (Lemon & Verhoef, 2016, 77)

Having this perspective on the customer purchase journey, companies should try to acknowledge both the consumer and the company's side of the purchase journey. And, also, establishing key aspects in each stage. Furthermore, firms should start identifying elements/touch points that arise during the journey. Lastly, companies should try to identify the trigger points that lead individuals either to continue or not one's purchase journey. (Lemon & Verhoef 2016, 76.)

The authors categorize customer experience into four touchpoints: brand-owned, partner-owned, customer-owned, and social/external/independent. The buyer can come across these touch point groups in every phase of the experience. The importance of each touch point might differ depending on the nature of the service/product. (Lemon & Verhoef 2016, 77.)

4.2 Customer journey at the airport

Airlines and other stakeholders ought to make sure that passengers who are disabled maintain their liberty and dignity as much as possible. It can be achieved through customer-oriented services, airport infrastructure, training and through the implementation of high-tech solutions (International Air Transport Association 2023).

Pre-Travel:

To make the customer journey easier and more enjoyable, communication is key. Before the flight, one should state if assistance is needed. Moreover, in some cases it is required, otherwise the request will not be fulfilled. This gives the opportunity to airlines, airports, and third-party service providers to be well-prepared for the assistance of someone with a disability. (International Air Transport Association 2023.)

At the airport:

The responsibility is not limited only to airlines. Taking into consideration national legislation, airports can be responsible for direct provision of assistance. It can also be achieved through third-party service providers. Since not all consumers at an airport are under airlines' control, airlines collaborate with other stakeholders, airports, and regulators to deliver a secure and fulfilling travel experience to all customers. (International Air Transport Association 2023.)

Check-in:

One can check-in via airline websites, mobile applications, and self-service kiosks. Those should be easily reached and accessed by passengers with disabilities. Furthermore, airline employees who are involved in the check-in operations should be trained, so they can provide adequate assistance. Disabled customers should be presented with the opportunity of assistance with their checked and carry-on baggage. (International Air Transport Association 2023.)

Mobility device handling:

The transportation of passengers' mobility devices whether it is a wheelchair, or a cane should be handled with great care. It is a critical operation of any airline since it is an extension of their passenger. (International Air Transport Association 2023.)

Boarding and disembarking:

Airlines make sure that all the requests that were made in advance are taken care of, and last-minute requests are noted and tended. As stated by the International Air Transport Association 2023: "Assistance must be provided as necessary, in addition airlines and airports should coordinate to make available at all stations wheelchairs and other mobility devices for boarding/disembarking within airport facilities, before departure, during intermediate stops and on

arrival. Upon arrival, airlines should make best efforts to accommodate the passengers with disabilities, procedures will vary by terminal and gate configuration in terms of boarding bridge, etc. Therefore, all staff should be properly trained to provide adequate mobility transfer techniques and prompt delivery of mobility devices".

5 Research methods

To develop successful research, it is essential to choose the right method. To improve the customer journey of blind and visually impaired individuals at the Helsinki airport, I have chosen the qualitative research method with an addition of semi-structured interviews.

5.1 Qualitative research

Qualitative research covers a broad range of techniques and philosophies, that is why it is a bit difficult to define. On a larger scale, qualitative research is a method that lets one to study people's experiences in detail by utilizing a particular set of research approaches. For instance, interviews, focus group discussions, visual methods, detailed observations, content analysis, and biographies. Just using the methods does not automatically make one a qualitative researcher. The most characteristic trademark of qualitative research is that it allows you to recognize matters from the point of view of your study participants and comprehend the definitions and interpretations that they give to behavior, events, or objects. A qualitative researcher ought to be unbiased, interested, and sensible, flexible and can listen to people telling their own story to gather the information needed. Moreover, qualitative researchers analyze participants in their natural habitat, to determine how their case and character are influenced by the context of their lives, like the social, economic, cultural, or physical circumstances in which they live in. Thus, qualitative research attempts to embrace and acknowledge the dependent influences on the research problems. (Hennik, Hutter & Bailey 2020, 10.)

Qualitative research is considered to be a human-centered approach. While quantitative research is all about numbers and unbiased techniques. The qualitative method is used to comprehend people's beliefs, experiences, thoughts, behaviors, and relationships. Three sections of qualitative research of interest exist in medical research: interview studies, textual analysis of different written records, empirical studies. Qualitative research allows the participants to express themselves in the study. For example, people can share their experience about the effects of a prescribed drug. Qualitative study strengthens the participation of everyone related to the research. The researcher works with social aspects including quantitative estimations in the study. The interviewees also have an eventful experience in the analysis. Their role is crucial and active, but most importantly they have a voice. They can talk about their personal experience. Furthermore, the relationship between the investigator and the participant is usually less official in qualitative research then in quantitative research. (Vibha, Bijayini & Sanjay 2013,192.)

5.2   Semi-structured interviews

Semi-structured interview is a good tool for understanding individual's unique perspective. Other data collection methods are accepted for qualitative research, but semi-structured interviews have the upper hand. The core benefit of semi-structured interviews is that they allow questions to be focused while still giving the researcher the liberty to explore appropriate themes that can arise during the interview. (Adeoye-Olatunde & Olenik 2020.)

In contrast to unstructured interviews, semi-structured interviews generally have an interview guide with questions focused to address the research objective. The guide is not meant to be followed word for word in each interview, it should have a natural flow of conversation for different interviews. A semi-structured interview guide usually comprises main open-ended questions with follow-up inquiry questions for the investigator to go back to during the interview. Conversely, there are closed-ended questions one can come across in a survey, which are more suitable for quantitative analysis. For instance, yes or no questions and multiple choice. Most importantly, the researcher ought to take measures to develop a questionnaire. One of the ways to do that is to apply conceptual or theoretical framework. (Adeoye-Olatunde & Olenik 2020.)

Another benefit of semi-structured interviews is the abundance of data one can get. Throughout the interview one can talk as freely as they want when answering questions, and their honesty can be the solution. As mentioned previously, semi-structured interviews have open-ended questions based on various topics the researcher wishes to cover. Themes are usually picked out by the interviewer before the meeting, but keep in mind that the interview's schedule should be flexible enough to allow issues that develop during the talk to be explored further. If a person has trouble answering to a question or can only give a brief answer, the interviewer can use hints or cues to encourage them to think about the question more. (Harvey-Jordan & Long 2001, 219.)

Based on the definitions of the qualitative research and semi-structured interviews, it can be concluded that these methods are better for my research. My goal is to get a unique experience of my interviewees rather than numerical data. I am trying to understand what the difficulties of the partially sighted people are when it comes to traveling. What can be done to improve their customer journey at the airport.

6   Additional research method: Benchmarking

Benchmarks are implementations industries use to evaluate and understand their performance and their score within the market. Those tools can help firms to improve processes within the company, inspect their growth and set standards. Benchmarks can be internal measurements of change when comparing company's current numbers to other realms of their business or to previous data. Organizations can also compare their results to their competitors in the industry. This can help them understand the market on a broader scale and their position in comparison to others on the market. Moreover, some allow their information to be public and easy to access, so the industry can share strategies that are successful and even achieve best executions. (Indeed Editorial Team 2022.) SWOT analysis is a popular benchmarking method. The method includes four components. Those four components are strengths, weaknesses, opportunities, and threats. Most of the time, SWOT analysis is used for strategic planning that accesses internal and external factors of any company. Strengths and weaknesses are internal factors. Opportunities and threats are external factors and characteristics of the environment. Strengths and opportunities help the company to achieve its' goals. They are advantages for organizations. Weaknesses and threats are damaging for company's growth. They are disadvantages for organizations. (Kumar & Praveena 2023.) I have decided to compare the SWOT analysis of the Helsinki airport and of the Dubai International airport. I have chosen the Dubai International airport because it is very different from the airport in Helsinki. Moreover, it is famous around the world, so I wanted to see how they are doing more in depth and if the Helsinki airport can get inspired by them.

6.1   SWOT analysis of the Helsinki airport

The SWOT analysis of the Helsinki airport (Figure 3) suggests that Finland's location is beneficial for the airport, and they can make more use of it. The airport is considered to be sustainable and safe with its' modeling being recognized by the world. However, the flights are greatly influenced by Russia's overflight permits. The prices are getting higher as well within the economic situation in the world. Also, other northern countries are becoming popular destinations.

Strengths:	Weaknesses:
• Finland's geographical location • Important transit hub between Europe and Asia network • Safe working environment • Consolidated air navigation system for civil and military aviation • Comprehensive website • Reliable airport for other airlines • Chinese language consumer service • Awarded for best data modeling in the world • Public transport links • Finavia's sustainability program	• Restricted number of operators • Asian connections depend on Russia's overflight permits • Seasonal tourism • Labor market turmoil in the industry • Different modes of transport given • differential treatment in central government • funding • Taxation and high prices • Timetable of public transport
Opportunities:	Threats:
• Russia's geographical proximity • Tourism industry's growth • Future development of Helsinki Airport • Cooperation between airlines • Alliances and markets generated by low-cost carriers • Customer oriented travel chains • Fourth Japanese destination added in 2024	• Airspace restrictions • Growing competition among northern European airports • Economic situation • Changes in customer behavior • EU regulations • Restructuring on commercial air transportation • Security complications • Inflation • Increased charges in 2024

Figure 3. Helsinki Airport SWOT Analysis (Adapted from Ministry of transport and communications 2015 & Finavia 2023)

6.2 SWOT analysis of the International Dubai airport

Based on the SWOT analysis of the Dubai International airport (Figure 4), the airport is a big transit hub with steady cash flows. It is known for its luxurious duty-free. Overall, Dubai is a popular politically stable destination for tourists nowadays. Apparently, there is no sustainability action at the airport and there is a lack of national tourists. Moreover, there is political instability in middle East. The airport can take advantage of implementing sustainability and loyalty programs.

Strengths:	Weaknesses:
• Highest average number of passengers per flight • Base for low-cost carrier FlyDubai • Political stability • Location • Duty-free • Popular destination • Strong sales • Steady cash flows • Transit hub • Amount of terminals • Comprehensive website	• Lack of recurring visitors • Similar target consumer groups • Single brand reliability • Lack of national tourism • No sustainability integration
Opportunities:	Threats:
• Expansive marketing • Economic wealth • Adaptation to new trends • Sustainability • Loyalty programs • Customer retention • Business conference events • Dubai Expo	• Political instability in middle East • Growing competition • Fast tourism development • Higher supplier costs • Inflation • Government orders • Environmental effects • Products are easy to copy

Figure 4. Dubai International SWOT Analysis (adapted from Zaidan, E 2016 & 247 Caseanalysis 2023)

6.3 Conclusion of the SWOT analysis

In the tables above, it is visible what airports are good at and what they should work on. A contrasting difference between the Helsinki Airport and the Dubai International airport is sustainability. While the Helsinki airport is a leader in sustainable development (Finavia 2023)., we cannot say the same thing about Dubai's international airport. When it comes to accessibility and assistance of disabled people, Helsinki airport has a section for that matter on the website and it says to book assistance 48 hours before the flight. Dubai international airport has a section "Need special Assistance". That section has six different units based on one's disability. You can easily find out how to proceed when you travel. All in all, Helsinki airport has many opportunities for development and seeing how Dubai International airport works with disabilities is one of them.

7   Findings and analysis

In this chapter the focus is on the empirical part of my research. It describes the process of interviews and how I analysed them reaching a conclusion.

7.1   Interviews

Overall, I have conducted six semi-structured interviews. Two of the respondents were completely blind and the other four were people who work with blind and partially sighted. Amongst those four, one person was an employee from Finnair, others were from organizations that work for the well-being of the blind. I have to say that it was not easy to obtain data for my research. Individuals with visual impairment were found through personal connections. Other respondents' information was found on LinkedIn.

Before starting the interview, I have asked for permission to record and use the answers for my thesis. Moreover, adding that all the data will be deleted after my thesis is done.

My interviews with blind and visually impaired were conducted by text because the respondents claimed it to be easier that way rather than an online meeting. I still had the opportunity to ask more questions if they were appropriate. Their reply was very fast, and it was easy to work with the interviewees. All in all, they shared their personal experiences when it comes to traveling by plane. The rest of the interviews were held on Teams and through WhatsApp video calls. The time slot ranged between 30-40 minutes. Interviewees shared their experience working with blind and partially sighted people.

I had two sets of questions: one for visually impaired and the other for employees. Based on theory, I came up with questions that helped me reach the objective (See Appendix 1).

7.2   Data analysis process

For my analysis of the data I have gathered, I chose to use content analysis. It is a method that is used to acknowledge the presence of particular words or concepts within data obtained for research. Researchers count how many times a phrase/word has been mentioned. Moreover, they analyze the definitions and relationships of such concepts and words. Data can be derived from a variety of interviews, observational documents, diaries, websites, medical records, and articles put through literature reviews. Frequently interview texts are more abundant in words and less concise. Qualitative content analysis can be executed in many ways that result in categories and themes. Of course, it all depends on the objective of the research, the quality of data, and the author's

knowledge and experience. The text is categorized and coded to conduct a content analysis. After, it is examined using conceptual or relational analysis which are considered to basic methods of the content analysis. (Busch. & al. 2005.)

Taking the approach of content analysis with the supporting theory, I have gathered four themes that run across the majority of data. Afterwards, I wrote down code words from the transcription of my interviews. In Figure 5 you can see themes and codes that relate to them. The numbers next to words indicate the number of participants that have mentioned that word in their answer.

experience

accompanied travel 5
traveling with family 2
negative emotions 3
feedback 2
independent travel 3
reliability 3
friendly personnel 2

accesibility

digital accessibility 5
online check-in 3
equal rights 4
applications 2
inclusion 4
special agency 3
awareness 4
assistive technology 3

issues

navigation 3
accompanied throughout the whole journey 2
information provision 4
waiting for the flight 2
wrong expressions 3
miscommunication 5
noises 1
lack of trust 3
wrong help 2

airport

gate 3
collaboration 2
announcement 2
trained staff 3
registration point 2
visual orientation 3
entrance 1
safety 1
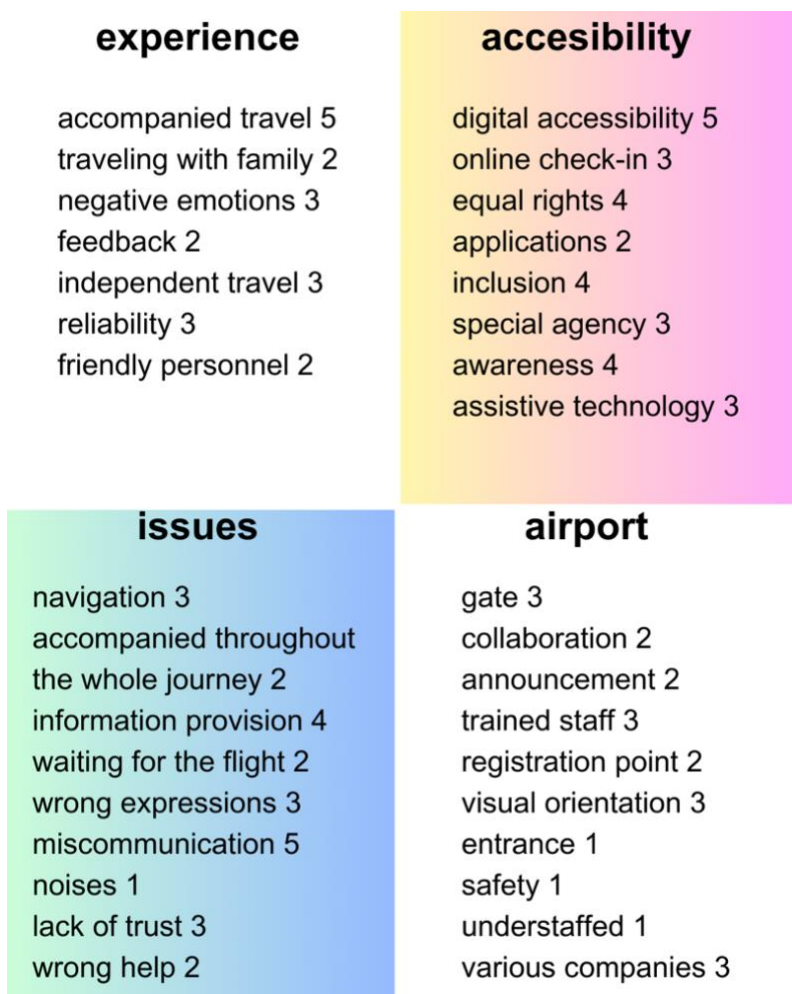understaffed 1
various companies 3

Figure 5. Interview analysis

If we take the answers of person A and B who are blind. They are quite different yet similar. Both interviewees always travel with family. They state that airport's personnel are usually quite friendly and nice. However, if they are not trained or aware of blindness as a disability, their good character does not help the case. When answering question 10, they said that they both wish to be escorted from the point they arrive and until they are on the airplane.

B is more experienced when it comes to flying, answering to question 2, they said that they have traveled by plane total of 6 times. So, when answering question 4, they said that they do not really have any emotions. They are just waiting for the flight. They also think that their experience is like everyone else's, and their disability does not influence it: "I don't think my experience was any different from others. Registration, passport control and everything is like everyone else" (Respondent B). When answering to question 7, B says that waiting is the most frustrating part of the whole journey.

A is less experienced because they lost their eyesight not that long ago. Compared to B, A struggles with negative emotions at the airport, "Due to a noticeable number of difficulties or just minor inconveniences, I cannot completely free myself from negative emotions. The travel process requires additional concentration, so it keeps you in some tension" (Respondent A). Their answer to question about the most difficult part of the journey was navigation. Traveling with severely weakened vision is almost impossible by yourself, especially through the airports or train stations. One requires outside help. While B prefers to check-in at the airport, A says that it is easier to do it online. However, there may be a problem with digital accessibility. The interface must interact correctly with assistive technology. As an example, A has mentioned screen reader, that reads information on the screen to for blind and visually impaired and a screen magnifier that increases interfaces. Besides being escorted from the arrival point, A wishes for a creation of a full-fledged support service, as well as ensuring the availability of all digital channels of interaction.

Let us take a closer look at employee's answers. All the participants have experience with blind and partially sighted individuals, some more, some less. The topic of miscommunication arose during all the interviews. Interviewees number 1 and 3 state that you ought to be careful when expressing yourself. Avoid expressions like "you see", remember your body language is not visible either. Respondent 2 stresses how lack of trust is a big issue when answering question 4A. Furthermore, respondent 1 shares the same vision as number 2 and says how working on mutual trust is crucial. Person number 4 says that blind and visually impaired people are quite independent and prefer not to mention that they have a disability or need assistance. Person 4 works at Finnair and they contemplated what could be done for a customer to trust them and let the company know in advance what kind of help they need. Moreover, when answering to question 3A, Finnair worker states that they contact disability organizations and ask their opinions on certain matters. Respondent 2 also adds that "It takes longer for them to trust you as they can't see you. You have to deal with their frustration sometimes". The topic of letting the airline know in advance what kind of assistance they need, brings us to digital accessibility. It is also a theme that was mentioned by everyone. Respondent number 2 answers to question 5A that there need to be

adapted websites and applications to give blind people the possibility to book their trip by themselves. One of the respondents is a digital special at NKL. They have mentioned how crucial digital accessibility is since almost everything in Finland is based on the banking credentials' authentication. The same respondent mentions how at the airport everything is mainly visual (signs, gate numbers etc.). There is barely any audio output nowadays. "The reason they don't travel alone is because there are no announcements" (Respondent 2). This answer leads to respondent number 3 to propose an application that blind people can rely on. However, there are certain drawbacks to it as well. For instance, low battery etc. Respondent number 4 says that one of the issues is wrong kind of help. For example, assisting a blind person with a wheelchair. There are several reasons why that might happen. a) default action if there was no information provided about the disability prior to the flight, b) unskilled staff sometimes do not remember which disability it was exactly. For that not to happen, interviewee 3 says how there should be awareness training and what one should do for each disability. Not only a certain number of employees should be trained but everyone. For instance, cleaners also come into contact with visually impaired. Going to the toilet is one of the difficulties mentioned by person number 1. So, what if a visually impaired person goes to the toilet and there is a cleaner who is not allowing customers in for a certain period. Does the cleaning staff know what to say or do? When giving an answer to question 5A, respondent 1 also mentions that to improve the journey of visually impaired "At the airport there should be people who have adequate training to accompany them in all stages at the airport". Respondents 3 and 4 believe that collaboration between companies is crucial to make sure the travel journey is as smooth as possible. After arriving at the Helsinki airport, one can take public transport. Is everything running smoothy? Or there are no trains and the person must take a taxi and pay more.

One thing that respondent 4 touched upon was independence of blind and visually impaired people, they often do not wait for assistance when the plane lands. This predicament leads to cabin crew losing the customer they were supposed to take care of. Based on the theoretical framework in this research, the article by Atkin & al. (2023) suggests that getting off the plane as soon as possible was rooted in anxiety about mobility aids safe return and possible damage. This also leads us to mutual trust. What can the airlines do so individuals with eyesight impairment can trust them?

Another issue that was discussed in the article was the seat procedure: unsatisfactory seat location or type. Respondent 4 told me during the interview that they had an event for disabled influencers where they tried new seats at Finnair. This event was greatly appreciated by the ones who were invited. Of course, Finnair gathered feedback that helped them. Respondent 4 says that they plan to have more events like that.

Atkin & al. (2023, 576) states that reported problems by partially sighted individuals involve various spheres included in the whole journey from communication among organizations, physical framework or tool accessibility, organizational policy, and instructions, through to the one's perception. The authors conclude that each disability is unique, their needs vary, and assistance should be aware of that. Visibility of a disability is also a crucial topic. Respondent 4 mentions that it is hard for agents to recognize blind people, which leads to wrong kind of assistance that was discussed earlier.

Liberated air travel is hard to accomplish for people with visual impairments despite the efforts to increase airport accessibility nowadays. That is why, they greatly rely on the assistance of airport workers to get them from the ticketing booth to their gate. This service lets one to travel but showcases various restrictions when comparing to sighted people's experience. (Guerreiro. & al. 2019, 1-2.) This correlates with what respondent 3 had to say about the Helsinki airport being visual. Airports are evolving. For example, self-check-in, QR codes obtained easily etc. However, that mainly is for the comfortability of sighted people. Navigation at the airport is the biggest issue based on theory and when it comes to the analysis of the interviews. Respondent 3 says that the trickiest part would be getting to the gate while the article by Guerreiro & al. (2019) argues that the most difficult part tends to be after the gate.

8   Conclusion and implications

The objective of this thesis was to improve the experience of blind and visually impaired people at the Helsinki airport. What is the most difficult part about their journey? How are they assisted? After thorough research, the author came up with ways to improve their travel journey.

8.1   Results

To analyze the results that were gathered during the interviews, the author has decided to sort the conclusion into three stages of the customer purchasing process (Figure 2). The theory was introduced in the theoretical framework chapter in more detail.

Prepurchase is the first stage. Based on Figure 5, 4/6 respondents mentioned information provision. This code means that respondents wish that blind and visually impaired have the possibility to inform the staff about the disability when buying the ticket. When the desire to travel has been recognized, visually impaired person goes to Finavia's website. Is it digitally accessible? For example, if I try to buy a ticket-I am confused at which point I have to provide information about myself that is not concerned with passport details. If there is not an easy way to mention that it can result in blind and visually impaired not providing that information at all. Respondent who is a sustainability manager said that they have discussions concerning Finavia's digital accessibility, the check-in and other factors concerning accessibility online. At the time of purchasing a ticket, the passenger must be able to indicate his special needs, this information must be transmitted to the airport, where it will be accepted by the escort service. A disabled person may arrive on a flight or arrive on a flight from another airport. The service must be prepared for both situations. This is the standard operating procedure for such services. That is, the implementation of such a service involves the joint work of both the airport and airlines to the moment when that desire is satisfied with a purchase.

Purchase is the second phase. In this phase a potential customer has indicated their needs and bought the ticket. Their satisfaction depends on how easy it was to buy the ticket. Digital accessibility 5/6 (Figure 5). If a customer shared what kind of disability, they have-they trust you to take care of them. Purchasing phase is oftentimes easier done through the app where all of your information is saved, and you are used to the interface there. One can easily keep up to date with the updates of the flight. All the notifications will be delivered to your phone. Working on the development of an application can result in beneficial collaborations.

Postpurchase is the last stage. Does the customer know what to expect after the purchase? Have they been informed? Can they rely on you? At what point should they expect help?

Miscommunication by 5/6 people (Figure 5). Hence, we can conclude that if a customer communicated with you, you ought to communicate back. For example, after purchasing a ticket-send an email that has information concerning the assistance with details. Mention some nuances-like if the trains will be running late that day. Mention taxis that are easily called. Make the experience more personalized. Respondents A and B wish to be escorted from the moment they go the airport by taxi. If all the stages have been executed well-it leads to the 'loyalty loop'. Moreover, modern research in management has expanded this procedure to add the "loyalty loop" as part of the whole customer decision journey, indicating that throughout the postpurchase phase, a trigger might transpire that can lead to customer loyalty or begins the process once more (Lemon & Verhoef 2016, 76).

In the beginning I have mentioned that inclusivity is categorized under social sustainability. 4/6 inclusion (Figure 5). While concluding what can be done with the travel journey through the purchasing stage. It is crucial to mention other factors. I have asked all the employees' question 7A. Respondent 3 states that inclusive travel starts from the moment the idea was born. Thoughts like: "how do I get there" "how easy it is" affect the process. Respondent 4 says talks about equal rights and being treated with respect. Respondents 1 and 2 talk about how the journey should be feasible for any disability. "The aim is to offer the same travel experience to everyone". Equal rights 4/6 and trained staff 3/6 (Figure 5). One thing that can be easily implemented at the Helsinki airport is trained personnel. This can be sorted through the hiring process or even later through meetings and trainings. Monthly meetings regarding customers with disabilities can be of great value. There are many organizations that care for the well-being of the visually impaired, Helsinki Airport has the opportunity to collaborate with them. Teamwork does wonders and there are many reasons that could lead to potential joined work of organizations. For instance, the development of a digitally accessible application that I have mentioned earlier. The implementation of personalized assistance, where visually impaired passengers get help from the moment they arrive to the airport by taxi or public transport (HSL).

To sum up, to improve the experience at the Helsinki airport for blind and partially sighted individuals, it is better to go stage by stage through the purchasing process. Each step affects the other. For example, if a customer did not get clear instructions after purchasing the ticket about assistance at the Helsinki airport-their trust level is low. It can also result in negative emotions way ahead before the trip. Furthermore, collaborations between companies are crucial to achieve the changes that can help passengers with eyesight impairment and make their customer journey at the Helsinki airport as smooth as possible.

8.2 Learning outcomes

The objective of the research has been met with the help of theoretical framework and the choice of methods. If the research is to be picked up at some point in the future, I recommend using more data collection methods. I have used semi-structured interviews; they did not cover all the aspects of the topic but only the themes that helped me reach the objective. Moreover, it is better to contact participants earlier to avoid the shortage of answers. I have experienced replies that take 2-3 weeks to get. This can prolong the process of analysis. Furthermore, next time there should be more blind and visually impaired participants rather than people who work with them. In the theoretical framework, a report by. Guerreiro. & al. (2019) suggests that there is not a lot of data from the point of view of the partially sighted that discusses air travel. I believe it because it is a bit difficult to find the suitable respondents who are willing to answer your questions. Also, I have to add that I had some issues with choosing the right articles for my theory. In the beginning, I wrote a lot, but it did not fit the objective. My thesis supervisor has guided me in the right direction to filter out the topics that were not necessarily 'wrong', but they did not align with what I was trying to achieve.

To conclude, we ought to remember that inclusivity is a part of sustainability because I believe people tend to forget about it sometimes. They associate sustainability with eco-friendliness when it is so much more. The process of doing this research has truly been transformative. I had to get out of my own bubble and constantly contact people of various professions and characters. The literature that I have read was not something I usually read but it really made me think of the troubles blind and visually impaired people go through every day. I have learnt a lot from this whole process, I am more aware overall about visually impaired people and their troubles concerning travel. I plan on doing my master's degree in the future, so I would be delighted to give life to this project once again.

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Appendices

Appendix 1. Interview questions

<u>Questions for people with visual impairment:</u>

1. Can you describe your disability is terms of traveling?

2. Have you ever traveled with an airplane?

3. Can you tell something about your experience?

4. What emotions do you have when you travel?

5. Did you travel independently or with the help of an agency/family?

6. How was customer assistance at the airport you were in?

7. What is the most difficult part about the journey?

8. How do you usually check-in?

9. At which point do you get help at the airport? As soon you enter or...

10. How would you develop the services at the airport?

<u>Questions for the employee side:</u>

1A. What do you do? Position, duties

2A. With what disabilities do you work?

3A. How is your experience with blind people?

4A. What difficulties do you have when it comes to communication?

5A. What do you think could be improved in their journey?

6A. What part do you think is the trickiest in their journey?

7A. What do you understand by inclusive travel?