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Challenges and Opportunities: A Phenomenological Analysis of Blind Passengers' Train Travel Experiences in Indonesia

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Abstract
This research aims at the experiences of blind passengers using long-distance intercity trains. Although prior research has been done on transportation use by blind consumers, their customer experience in Indonesia has yet to be thoroughly examined. This method of this study employs Smith's Interpretative Phenomenology Analysis (IPA) method, conducting video conference interviews with six blind passengers who frequently travel on long-distance intercity trains. These in-depth interviews were analyzed using double hermeneutics to develop the Blind Passenger Journey Mapping (BPJM) and Blind Passenger Journey & Experience (BPJE) models. The results reveal that blind passengers often require assistance at nearly all touchpoints and need more accessible services throughout their journey. Two main themes emerged: Blind Passenger Experience (BPE) and Sighted Mobility Oriented Assistant (SMOA). The paper identifies significant gaps and opportunities in the current service design for blind passengers, suggesting that addressing these through entrepreneurial initiatives cannot only improve inclusivity and accessibility but also revolutionize the travel industry by opening a potentially underserved market, promoting a more equitable and sustainable travel ecosystem.

Keywords: blind passengers, customer experience, customer journey map, long-distance intercity train, entrepreneurship opportunity

INTRODUCTION

Indonesia's train industry began in 1875 under Dutch colonial rule, making it Asia's second user of trains after India (Ditjen Perkeretaapian, 2021). During World War II, trains were used for logistics under Japanese occupation. Following Indonesia's independence on August 17, 1945, the first Indonesian train company was established on September 28, 1945 (PT. Kereta Api Indonesia (Persero, 2017). Over 76 years, trains in Indonesia have become a popular transport mode, serving over 316 million passengers from 2016 to 2020. They are noted for their energy efficiency, environmental benefits, and commitment to safety (Pemerintah Kabupaten Bojonegoro, 2020; Komite Nasional Keselamatan Transportasi, 2021). Ongoing technological improvements highlight the industry's promising future.

Train safety needs improvement, as data from 2017 to 2021 reveals three crashes, 21 derailments, one fire, and seven operational disruptions, resulting in two fatalities and 17 injuries (Komite Nasional Keselamatan Transportasi, 2021). These incidents highlight the need for enhanced safety measures by both the company and government to reduce accidents and casualties. Trains have become a popular mode of transport in Indonesia, serving over 316 million passengers from 2016 to 2020 (Badan Pusat Statistik, 2024). However, safety improvements are needed, as accidents between 2017 and 2021 included three crashes, 21 derailments, one fire, and seven operational disruptions, resulting in

two fatalities and 17 injuries (Komite Nasional Keselamatan Transportasi, 2021). These incidents underscore the need for enhanced safety measures by both the company and government.

Visually impaired are mainly differentiated by low vision and total blindness (Persatuan Tunanetra Indonesia, 2021). According to Lewis & Alman (2000) as cited in Turnbull et al. (2013) totally blind people are those who do not have any light perception and do not receive meaningful input through their visual sense. They use tactile and auditory senses to learn about the environment and rely on braille to read (Utomo & Muniroh, 2020; Tamer, Kirisken & Koklu, 2023). Additionally, they have three limitations: limitations in the range and variety of experiences, limitations in the ability to get around, and limitations in interaction with the environment (Turnbull et al. 2013). Understanding how blind people use their senses based on their limitations is essential to adjust the suitable service (Kuriakose et al. 2020).

Unlike those with normal sight, who can use their vision to gather detailed information from a distance without needing to approach or touch the object, individuals who are entirely blind face unique challenges. They cannot rely on sight, and other senses cannot fully compensate. To navigate their daily environment safely, blind individuals must develop Orientation and Mobility (OM) skills (Azwandi & Efendi, 2004; SFASU, 2017). These skills are not just beneficial but essential for their independence. With mobility being the primary issue for blind individuals, it is essential to recognize that most touchpoints in marketing, such as visual media, print, billboards, television, and the Internet, are currently designed for those with good sight (Krishna, 2013). This status quo poses significant hazards and risks for blind passengers, especially during long-distance train journeys. The urgency of this problem underscores the need for accessible touch points as a potential solution.

Transportation is crucial for blind passengers, with trains being a primary service used. Trains, which connect major cities, require high standards of service for accessibility. Government reforms have improved train services, but visually impaired travelers may still face issues such as delays, disorientation, and reliance on others for assistance (Jackson, Peck, & Bentzen, 1983). Land transport, particularly trains, poses significant risks for blind passengers. For example, a Japanese survey found that 76% of visually impaired passengers had fallen from railway platforms, with 91% experiencing near-falls. In Japan, 28 incidents of such falls were recorded between April 2021 and March 2022 (Mizuno & Tokuda, 2023). Similar issues are reported in Indonesia, though data is sparse. An incident at Cikini station highlighted the dangers, where a visually impaired passenger fell into the gap between the platform and train, mistaking it for a ditch (Lova & Maullana, 2019; WARTAKOTAlive.com, 2019).

The built environment, especially for blind people, must be designed to create a safe built environment accessible to all. According to the 'universal design' principle, this provides convenience for all users, not only for ordinary people but also those with disabilities, and creates an accessible standards environment (Goldsmith, 2000; Chidiac et al. 2024). Indonesia's regulations to protect the rights of disabilities, such as those shown in UU No. 8 in 2006, stated that disability has equal rights and opportunities, is free from discrimination, acquiring accessibility, public service access, and protection from disasters. Customer Experience (CX) is crucial for a firm's success, emphasizing service satisfaction and impactful experiences. Unlike promises, CX focuses on tangible, memorable interactions that resonate with customers and foster word-of-mouth promotion (Burhanudin, 2021). CX is a multidimensional construct involving cognitive, emotional, behavioral, sensory, and social responses throughout the

purchase process. Customer Journey Mapping (CJM) helps illustrate these interactions by capturing customer feedback to identify and improve key touchpoints (Kalbach, 2016; Lemon & Verhoef, 2016). Understanding these touchpoints can reveal new opportunities to better engage blind consumers.

Service enterprises must prioritize customer experience to ensure business continuity. According to Wodkowski (as cited in Dąbrowska & Janoś-Kresło, 2019), strong customer relations drive business success, especially in the digital and automated era. Becker and Jaakkola (2020) highlight that customer experience integrates both managerial stimuli and consumption responses. Key aspects include service marketing, consumer research, retailing, and service design. This study adapts these concepts to focus on customer experience in response to service stimuli and blind passengers' needs, providing a tailored understanding for our research context. The relation can be seen in Figure 1.

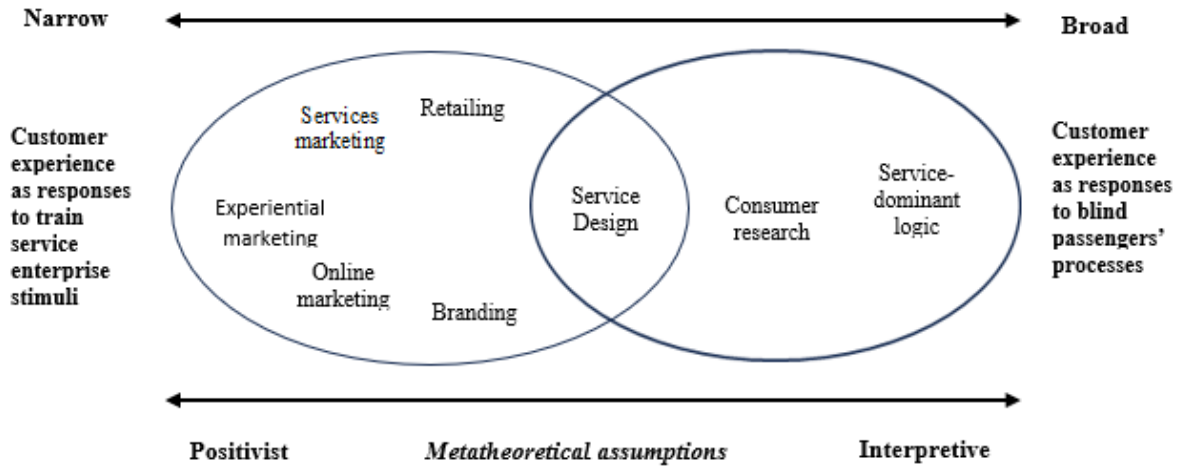

Figure 1. Theoretical Map of Customer Experience (Adapted from Becker & Jaakola, 2019)

This research implies the close relationship between train service enterprise on the left-hand perspective and blind passengers' processes on the right-hand perspective, which intersects with service design. This consumer research uses qualitative interpretive phenomenology; therefore, the scope of customer experience is on a broader perspective, and blind passengers are analyzed as the unit analysis. This research aims to understand the service journey of blind passengers on long-distance trains. The insights gained from this study could help to address the challenges faced by blind passengers and provide valuable guidance to train service providers. It identifies and eliminates these pain points, enhancing all passengers' service, security, and safety. The research will build on topics related to previous studies to achieve this (see Table 1). Table 1 below shows similarity in the research subject, which is visually impaired. Both the qualitative approach and the research are also related to transport use. However, there are differences compared to this research gaps, such as this research is consumer behavior research focusing on customer experience, all the participants in this research are blind, the transport is unique, long-distance trains in Indonesia used by six Indonesia blind passengers who have many years of experience using this transport frequently.

Table 1. Previous Research

No.	Title, Name, Year	Research Focus	Data Analysis	Result
1	"Attitude and perception of visually impaired travelers: A case of Klang Valley, Malaysia" (Mothiravally et al. 2014)	(a) Identify stages of travel experiences, (b) Identify attitude, and (c) Appraise Klang Valley as a tourist attraction	Using the interpretive approach, ten visually impaired people were analyzed by recording video and audio, then using thematic analysis.	Barriers to access information are present in informants. Need to provide quality accessible tourism experience.
2	"The orientation and mobility of visually impaired people in bus and subway networks in Brazil" (Silveira & Dischinger, 2019)	(a) Study the characteristics of static provided information, (b) study the itinerary and time duration, (c) how the information should be displayed, and (d) what kind of details about locations, waiting time as dynamic information	Using qualitative, descriptive approach and observation through 'accompanied walks' to 5 visually impaired, one partly sighted, four blinds, but only three were detailed in the paper.	'Accompanied walks were a powerful tool for understanding the importance of fully accessible information systems. However, the Brazilian public transport network is far from ideal. Accessible information systems are essential for anyone to reach the desired destination independently.

Analysis in this research using Interpretative Phenomenology Analysis (IPA), also known as 'double hermeneutics' where the researcher is trying to make sense of the participant who is trying to make sense of what is happening (Smith et al. 2009). This research may contribute to illustrating the experience of blind passengers in Indonesia and be the input for train providers to be able to provide accessible service to all passengers.

This research tries to catch the phenomena by trying to find out the importance of long-distance trains to blind passengers on one side but also the difficulties faced by blind passengers in accessing all the service touch-points; thus, the findings of this research should be utilized by train service enterprise to implement the suitable service design to give better service and eliminate pain-points of blind passengers when they use the service. This research is essential because it uncovers the voices of disabled passengers who need help and adjustment from the train service provider so they can enjoy the service better and safely. Palmer (2008) discussed the importance of the buyer-seller relationship in enhancing customer experience. Therefore, service providers cannot rely only on service touchpoints they can control because customer "total experience" may happen on non-controllable service touchpoints. Hence, it is important to understand customer feedback (see Table 2).

METHOD

This research is using Smith's IPA. The qualitative data (Creswell & Creswell, 2022) were purposely extracted through video conferencing platform interviews with six Indonesians who are blind and have had experiences using long-distance Java intercity trains as their means of longitudinal transport. The number of informants in IPA research focuses on extracting the lived experience of a few informants, as few as two informants, and up to six informants for novice researchers (Alase, 2017; Smith et al. 2009). The informants were facilitated by Lembaga Daya Dharma Keuskupan Agung Jakarta (LDD-KAJ), a social community service managed by Keuskupan Agung Jakarta, and then hand-picked according to the purpose of this study.

Table 2. Preliminary Analysis

Original Transcript	Lines	Exploratory Comments	Emergent Themes
R: What service do you need the most?			
I1: Commuter Line, online transportation, banking	Line 38	Importance of transport to Blind people	Need of mobility
I2: Commuter Line, haircuts	Line 563		
I3: Transportation services, online transport	Line 1019		
I4: Transportation & food delivery	Line 1343		
I5: Transportation, online transportation	Line 1790		
I6: Transportation, restaurant	Line 1913		
R: What is the service that you use most?			
I1: Transportation and banking	Line 107	Frequently services used by Blind passenger	Most purchased service
R: What are the advantages of a long-distance train according to you as a blind passenger?			
I1: It provides reasonable accommodation to disabled passengers, which means they have staff ready to serve special passengers. They can "go beyond the limitations" that I have, give solutions, and help me.	Line 253	Suitable to mobilize those in need of special assistance	Overcome mobility barriers
I3: Service has improved.	Line 1099		
I4: Affordable, comfortable, punctual, reliable	Line 1497		
R: What about communication between the staff in the station and the train to passengers with disabilities or who are blind?	Line 749	We need to have a better SOP in handling customers with disabilities.	SOP needed to serve disability passenger
I2: There was a difference in SOP between Jakarta and Purwokerto, even though my parents knew that I was visually impaired and traveling alone. After the debate, it was finally possible for my parents to assist me until I reached the train carriage.			
R: What is your purpose for using a long-distance train?	Line 696	The train serves its purpose for travelers in Java.	Transport accommodation in Java
I2: I am visiting family and going on holiday. My parents are in Purwokerto, and my sister is in Jogjakarta.			

Data in this research were extracted from June 2021 until May 2023; in-depth video conference interviews were voice recorded, transcript, coded, and then analyzed applying double hermeneutics analysis; when the informants are trying to understand the questions asked by the interviewer/ hermeneutics 1 (one), then the interviewer tries to understand the informant's answers/ hermeneutics 2 (two). The steps in analysis using Smith's IPA (as cited in Smith et al. 2009), are as follows: (1) reading and re-reading, (2) initial noting, (3) turning notes into themes, (4) searching for connectors, (5) moving on to next case, and (6) looking for patterns.

In addition to the steps in analyzing using Smith's Interpretative Phenomenology Analysis, this research also proposed a Blind Passenger Journey Map (BPJM) by adapting Risdon's Customer Journey Map (CJM) to show the response from a blind passenger informant. The novelty is that BPJM precisely reflects a blind passenger's total experience. Furthermore, based on the result of the Blind Passenger Journey Map, a Blind Passenger Journey and Experience (BPJE) was also proposed through adaptation from Lemon & Verhoef's (2016) Customer Journey & Experience (CJE). The result shown in BPJM contributes to the novelty of the journey and experience model for blind passengers (see Table 3).

Table. 3 Informants

Informants	Gender	Age	Visual Impairment Category	Occupation	Latest Education	Period & Frequency of Travel
I1	Male	50	Being Blind for the last 23 years, I understand OM	Social Worker	Bachelor	2009 to 2019/ w/ others 40 times alone 0 time
I2	Female	33	Being Blind for the last 18 years, I understand OM	Government Employee & Social Worker	Master in Language Education	2011 to 2022/ w/ others 34 times alone 20 times
I3	Male	50	Being Blind for the last 25 years, I understand OM	Musician & Therapist	High School	2002 to 2009/ w/ others ten times alone 0 time
I4	Male	41	Being Blind for the last 20 years, I understand OM	I.T Teacher	Bachelor in Counselling Education	2001 to 2019/ > 20 times alone one time
I5	Female	45	Being Blind for the last 29 years, I understand OM	Government Employee & Activist	Bachelor in Economics	2015 to 2021/ > 10 times alone 0 time
I6	Female	32	Being Blind for the last 15 years	Bank Employee	Bachelor in Theology	2013 to 2017/ < 20 times alone 0 time

Unit analysis in this research is blind passengers as individuals. Table 3 above shows there are an equal number of informants by gender, three male and three female; adults from age 32 years old to 50 years old; have been blind not from birth but from the cause of illnesses such as tumors, accidents, glaucoma, etc. in the last 15 to 29 years; Had decent, enough paid job; the majority had a good education, the lowest is high school, predominantly bachelor and the highest is Master Degree; had many experience in traveling utilizing long distance Java intercity train, from 10 to 40 times; and two of them had experience as a lone traveler but not wholly independent, from 1 to 20 times.

RESULTS AND DISCUSSION

This research analysis is not just theoretical but also practical. We apply Interpretative Phenomenology Analysis (IPA) (Smith et al. 2009) and modify the Customer Journey Map (CJM) (Risdon, 2012) into the Blind Passenger Journey Map (BPJM). We then further modify the Process Model Journey & Experiences (PMJE) (Lemon & Verhoef, 2016) to propose a process model for the Blind Passenger, named the Blind Passenger Journey and Experience (BPJE), which has direct implications for improving the travel experiences of blind passengers.

The following part is taken from the most significant answers from semi-structured questions that were asked to the blind passenger as an informant. The significant answers then chose to represent the rows of customer stages in their journey map, which are (a) research and train journey itinerary, (b) booking ticket and seat, (c) post booking and pre-travel, (d) travel and arriving at a destination and (e) post-travel in the column, what is felt by blind passengers represented by; (1) customer actions, (2) customer touch-points, (3) customer pain points, (4) customer opportunity, and (5) customer experience (detailed information is enclosed

in Appendix 1). Then, in the next step, this research shows coding on essential and significant answers from blind passengers to develop themes (see Appendix 2).

After completing the Customer Journey Map (CJM), the last interview was done with experts for confirmatory purposes. This interview functions as data verification for blind passengers (among the informants) who have had an experience traveling alone. However, it turns out that they still need the 'human touch' on their consuming journey. In this case, Informant 2 and Informant 4. Both carriage: east 1 (one) experience traveling alone but still with the help of others such as family or friend taking them from home to the train station or the carriage; help from officers at the depart station, help from officers onboard the train, and officers at arrival station; help from other passengers and finally get picked up from another family member or friend at destination.

Several entrepreneurial aspects derived from the study: (1) Development of Assistive Technologies and Services Since there is an apparent demand for technologies that enhance the accessibility of train services for blind passengers, it could be developing apps with voice-guided navigation, real-time assistance, and service information tailored for visually impaired users (Okolo et al. 2024); (2) Training and Consultancy Services, entrepreneurs can create and offer specialized training programs for railway employees, focusing on effective communication and support for visually impaired travelers; (3) Enhanced Customer Service Solutions, creating tailored travel packages and services for visually impaired passengers, including assistance from booking to the end of their journey, ensuring a seamless travel experience; and (4) Product innovation, they offer subscription services for regular travelers, including a package of assistive technologies, on-demand assistants, and travel support tailored for visually impaired passengers. The research underscores the existence of substantial lacunae and untapped opportunities in the current service design paradigm for visually impaired travelers, thereby presenting a fertile ground for developing novel solutions and entrepreneurial ventures (Messaoudi et al. 2022; El-Taher et al. 2021; Chaurasia et al. 2021).

All blind passengers in this research have many experiences in traveling by train; two have experience traveling alone but not independently and have learned Orientation Mobility (OM). They all have difficulties accessing information from mobile applications provided by train provider companies and mobile applications from travel bureaus online, making them depend on other people with normal sight. Nearly from all touchpoints of their customer experience (CX), blind passengers need other people's assistance. The only thing in their CJM that they can do independently is only one thing in stage A: buying a ticket in the mini market. Traveling in a group of visually impaired makes them feel protected and aware of the environment. Customer Journey Map (CJM) helps the reader understand and visualize the blind passenger experience.

From six informants, 2.208 transcript lines have been documented, and 37 themes have been produced. As a novelty of this research, a process model for blind passengers' journey and experiences in Indonesia and a customer journey map of blind passengers when traveling On-board Long-Distance Java Intercity Train in Indonesia are proposed. This research has limitations due to the nature of this qualitative research; the result shown in the informants' experience is not meant to be generalized and may not show similarity to other blind informants of this research. This research proposes one main factor that would be beneficial and be the solution to all blind passengers traveling using long-distance trains. The factor that would ease blind passenger trips is *Sighted Mobility Oriented Assistance* (SMOA). The proposed figure can be seen in the following Figure 2.

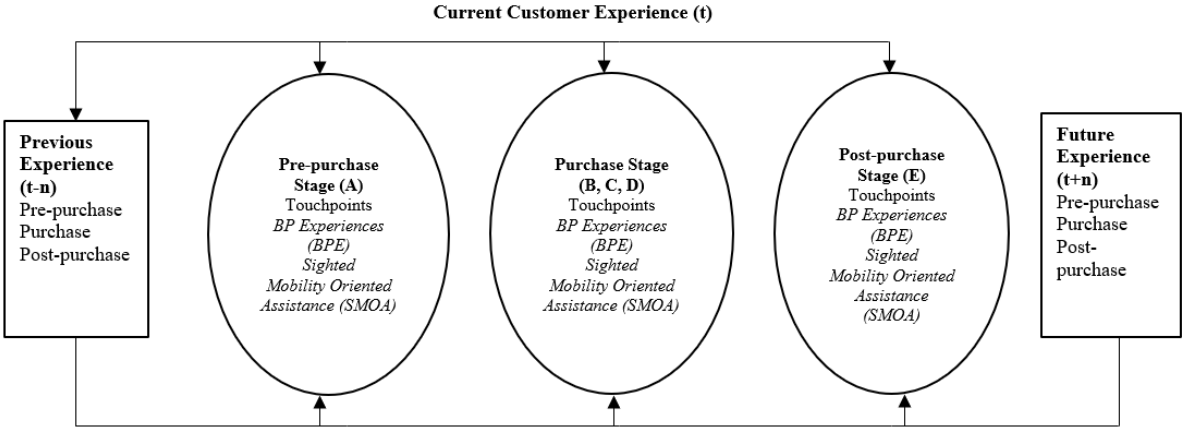

Figure. 2 Proposed Process Model for *Blind Passenger Journey & Experiences (BPJE)* in Indonesia (Adapted from Lemon & Verhoef, 2016)

Figure 2 shows what blind passengers experience on their train journey, as indicated by the previous CJM of blind passengers in Appendix 1. The pre-purchase stage is the research and train journey itinerary (A); the purchase stage is booking ticket and seat (B), post-booking, pre-travel (C), travel, and arrival at the destination (D). The Post-purchase Stage is Post Travel (E). The novelty in this research is the above words typed in italics: Blind Passenger Experience (BPE) and Sighted Mobility Oriented Assistance (SMOA). Service to blind passengers must be addressed more appropriately, especially regarding their passive mobility. Infrastructure and human resources are needed to perform this better. They need to be trained to handle unique customers (Sugiono et al. 2022). This research proposes two new principal codes: Blind Passenger Experience (BPE) and Sighted Mobility Oriented Assistance (SMOA). Also, two new models are proposed: Blind Passenger Journey Map (BPJM) and Blind Passenger Journey & Experience (BPJE).

CONCLUSION

The built environment should be accessible to them, and gaps and heights should be strictly controlled. Descriptive information should be audible and integrated to make them independent. Regardless of disability, passengers may be small, but creating accessible public transport will ensure no one is left behind. Equality is essential to accessible service. Future research may address a similar topic in another area of consumer experience, whether product or service, or use a different analysis approach, such as quantitative research with larger blind informants.

REFERENCES

Alase, A. (2017). The Interpretative Phenomenological Analysis (IPA): A Guide to a Good Qualitative Research Approach. *International Journal of Education and Literacy Studies*, *5*(2), 9-19.

Azwandi, Y., & Efendi, J. (2004). *Bahan Ajar: Orientasi dan Mobilitas.* Padang: Fakultas Ilmu Pendidikan Universitas Negeri Padang.

Badan Pusat Statistik. (2024, July 02). *Jumlah Penumpang Kereta Api*. Badan Pusat Statistik. Retrieved from: https://www.bps.go.id/id/statistics-table/2/NzIjMg==/jumlah-penumpang-kereta-api.html.

Becker, L., & Jaakkola, E. (2020). Customer Experience: Fundamental Premises and Implications for Research. *Journal of The Academy of Marketing Science*, *48*, 630-648. https://doi.org/10.1007/s11747-019-00718-x.

Burhanudin, T. (2021). *Customer Experience Bagian Terpenting dalam Strategi Pemasaran.* Jakarta: Majalah Marketing.

Chaurasia, M. A., Rasool, S., Afroze, M., Jalal, S. A., Zareen, R., Fatima, U., Begum, S., Ahmed, M. M., Baig, M. H., & Aziz, A. (2021). Automated Navigation System with Indoor Assistance for Blind. In: Chaurasia, M.A., Mozar, S. (eds) Contactless Healthcare Facilitation and Commodity Delivery Management During COVID 19 Pandemic. Advanced Technologies and Societal Change. Singapore: *Springer*. https://doi.org/10.1007/978-981-16-5411-4_10.

Chidiac, S. E., Reda, M. A., & Marjaba, G. E. (2024). Accessibility of the Built Environment for People with Sensory Disabilities—*Review Quality and Representation of Evidence*. *Buildings*, *14*(3), 707. https://doi.org/10.3390/buildings14030707.

Creswell, J. W., & Creswell, J. D. (2022). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (6th ed.). Thousand Oaks, CA: Sage Publications.

Dąbrowska, A., & Janoś-Kresło, M. (2019). The Importance of Customer Experience for Service Enterprises. *Marketing i Rynek*, (9), 15-25. https://doi.org/10.33226/1231-7853.2019.9.2.

Ditjen Perkeretaapian. (2021). *Sejarah Perkeretaapian Indonesia*. Kementerian Perhubungan Republik Indonesia. Retrieved from: https://djka.dephub.go.id/sejarah-perkeretaapian-indonesia.

El-Taher, F. E., Taha, A., Courtney, J., & Mckeever, S. (2021). A Systematic Review of Urban Navigation Systems for Visually Impaired People. *Sensors*, *21*(9), 3103. https://doi.org/10.3390/s21093103.

Goldsmith, S. (2000). *Universal Design: A Manual of Practical Guidance for Architect* (First ed.). Oxford: Reed Educational and Professional Publishing Ltd.

Jackson, R. M., Peck, A. F., & Bentzen, B. L. (1983). Visually Handicapped Travelers in The Rapid Rail Transit Environment. *Journal of Visual Impairment & Blindness*, *77*(10), 469-475. https://doi.org/10.1177/0145482X8307701001.

Kalbach, J. (2016). *Mapping Experiences: A Complete Guide to Creating Value Through Journeys, Blueprints & Diagrams.* Sebastopol: O'Reilly Media.

Kuriakose, B., Shrestha, R., & Sandnes, F. E. (2020). Tools and Technologies for Blind and Visually Impaired Navigation Support: A Review. *IETE Technical Review*, *39*(1), 3–18. https://doi.org/10.1080/02564602.2020.1819893.

Komite Nasional Keselamatan Transportasi. (2021). *Statistik KNKT: Investigasi Kecelakaan Transportasi Tahun 2021.* Jakarta: Pelayanan Investigasi dan Kerja Sama Bagian Data, Informasi dan Humas KNKT.

Lova C., & Maullana, I. (2019, November). *Cerita Penyandang Disabilitas yang Terperosok di Peron Stasiun Cikini*. Kompas.com. Retrieved from: https://megapolitan.kompas.com/read/2019/11/26/20512841/cerita-penyandang-disabilitas-yang-terperosok-di-peron-stasiun-cikini?page=all.

Krishna, A. (2013). *Customer sense: How The 5 Senses Influence Buying Behavior.* New York: Palgrave Macmillan.

Lemon, K. N., & Verhoef, P. C. (2016). Understanding Customer Experience Throughout the Customer Journey. *Journal of Marketing*, *80*(6), 69-96. https://doi.org/10.1509/jm.15.0420.

Messaoudi, M. D., Menelas, B. J., & Mcheick, H. (2022). Review of Navigation Assistive Tools and Technologies for the Visually Impaired. *Sensors*, *22*(20), 7888. https://doi.org/10.3390/s22207888.

Mizuno, T., & Tokuda, K. (2023). Reducing Falls Among Visually Impaired Individuals on Railway Platforms: Field Research on Environmental Challenges and Solutions. *Heliyon*, 9(3), 1-13. https://doi.org/10.1016/j.heliyon.2023.e14666.

Mothiravally, V., Ang, S., Baloch, G. M., Kulampallil, T. T., & Geetha, S. (2014). Attitude and Perception of Visually Impaired Travelers: A Case of Klang Valley, Malaysia. *Procedia-Social and Behavioral Sciences*, *144*, 366-377. https://doi.org/10.1016/j.sbspro.2014.07.306.

Okolo, G. I., Althobaiti, T., & Ramzan, N. (2024). Assistive Systems for Visually Impaired Persons: Challenges and Opportunities for Navigation Assistance. *Sensors*, *24*(11), 3572. https://doi.org/10.3390/s24113572.

Palmer, A. (2010). Customer Experience Management: A Critical Review of an Emerging Idea. *Journal of Services Marketing*, *24*(3), 196-208. https://doi.org/10.1108/08876041011040604.

Pemerintah Kabupaten Bojonegoro. (2020). *Kereta Api menjadi Moda Transportasi Favorit Rakyat Bojonegoro*. Pemkab Bojonegoro. Retrieved from: https://bojonegorokab.go.id/berita/6018/kereta-api-menjadi-moda-transportasi-favorit-rakyat-bojonegoro.

Persatuan Tunanetra Indonesia. (2021). *Siapa tunanetra?* Pertuni. Retrieved from: https://pertuni.or.id/.

PT. Kereta Api Indonesia (Persero). (2017). *Sejarah Perkeretaapian*. KAI. Retrieved from: https://www.kai.id/corporate/about_kai/.

Risdon, C. (2012, August). *Anatomy of an Experience Map*. Center Centre. https://articles.uie.com/experience_map/.

Silveira, C. S., & Dischinger, M. (2019). The Orientation and Mobility of Visual Impaired People in Bus and Subway Networks in Brazil. *Ambiente Construído*, *19*(1), 195-208. https://doi.org/10.1590/s1678-86212019000100301.

Smith, J. A., Flowers, P., & Larkin, M. (2009). *Interpretative Phenomenology Analysis: Theory, Method and Research* (1st ed.). Cornwall: SAGE Publications Ltd.

SFASU. (2017). *Visual Impairment Preparation program (VIP): Training Program for Teachers of The Visually Impaired & Orientation and Mobility Specialists Student Handbook.* Texas: Stephen F. Austin State University.

Sugiono, S., Pratomo, A., & Nugroho, W. S. (2022). House-of-Quality Approach for the Design of a Minibus to Transport Visually Impaired and Wheelchair-Bound Passengers. *International Journal of Technology*, *13*(1), 69. https://doi.org/10.14716/ijtech.v13i1.4290.

Tamer, Ö., Kirişken, B. & Köklü, T. (2023). A Low Duration Vibro-tactile Representation of Braille Characters. *J Multimodal User Interfaces*, 17, 121–135. https://doi.org/10.1007/s12193-023-00405-w.

Turnbull, A., Turnbull, R., Wehmeyer, M. L., & Shogren, K. A. (2013). *Exceptional Lives: Special Education in Today's Schools.* New Jersey: Pearson.

Utomo, & Muniroh, N. (2020). *Keterampilan Orientasi Mobilitas (OM) bagi Tunanetra.* Sidoarjo: Nizamia Learning Center.

WARTAKOTAlive.com. (2019, November). *Penyandang Tuna Netra ini Nyaris Tewas Usai Terperosok di Stasiun Cikini*. WARTAKOTAlive.com. Retrieved from: https://wartakota.tribunnews.com/2019/11/25/penyandang-tuna-netra-ini-nyaris-tewas-usai-terperosok-di-stasiun-cikini.

APPENDICES

Appendix 1. Proposed *Blind Passenger Journey Map* (BPJM) when Traveling On-board Distance Java Intercity Train in Indonesia (Adapted from Risdon, 2012)

Customer Stages	Research & Train Journey Itinerary (A)	Booking Ticket & Seat (B)	Post Booking & Pre-travel (C)	Travel & Arriving at Destination (D)	Post Travel (E)
(1) Customer Actions	I2: "We discussed what time to leave, what needs to be prepared during the trip; provisions, which station we depart from, the destination station, and budget." (*Line 825*) I6: "Determine schedule in advance, search ticket availability using the app; backpack is better than suitcase." (*Line, 2076*)	I2: "I go and buy the ticket at the nearest minimarket or ask a friend or relative for help." (*Line 848*) I4: "I bought the ticket in a nearby minimarket, easier than using a mobile phone." (*Line 1472*)	I1: "I put my purse close to my body, in a small bag; I do not bring much money because I have to hold a cane in one hand. I like to pack in a lightweight manner, simple." (*Line 458*)	I2: "Find the entrance for instructions on the location of the platform assisted by officers, then take the time for rapid test 2 hours before departure must have arrived at the station cost 80 thousand." (*Line 892*)	I2: "Visually impaired passengers need help from officers to get to the correct train, carriages, and seats according to the destination when arriving and disembarking at the destination station to the station exit." (*Line 921*)
(2) Customer Touchpoints	I2: "Mobile phone, internet, mobile app, call center." (*Line 832*) I3: "I like to meet in person and use a mobile phone." (*Line 1222*)	I2: "Call center, mini market, mobile app or ask for help from others who are normally sighted." (*Line 854*)	I2: "Documents needed to be prepared are ID, train ticket, and rapid test results." (*Line 896*) I4: "It needs improvement, especially at the time of ticket exchange to use the print booth; for the visually impaired, we are still dependent	I6: "Mobile phone to check the clock and call the family who picks up, chatting asking about the experience verbally." (*Line 2181*)	I2: "When chatting with friends also to friends who are blind or in meetings." (*Line 930*) I3: "I am one of those people who do not like to post photos on social media, so I just chat with friends." (*Line 1309*)

Customer Stages	Research & Train Journey Itinerary (A)	Booking Ticket & Seat (B)	Post Booking & Pre-travel (C)	Travel & Arriving at Destination (D)	Post Travel (E)
			because we still need the help of others" (*Line 1581*)		
(3) Customer Pain-points	I2: "Apps from train service providers still lack access to the visually impaired, cannot speak on the screen reader, so I have to get help from others." (*Line 836*) I6: "There are some menus that do not read, read the name of the train but do not read the schedule; it just reads the images, and some buttons cannot even be clicked. (*Line 2076*)	I2: "Sometimes when you want to buy tickets, the minimarket network is disrupted, so they cannot sell tickets." (*Line 863*) I3: "For stations not so much access for disabilities, the condition of the sidewalks, stairs, the arrangement of the location still needs to be improved (*Line 1105*)	I2: "There is little concern about 10-15% fear of an accident or train crashes; these concerns arise from the news." (*Line 881*) I3: "The scariest thing is the info about train accidents. (*Line 1179*)	I2: "The air conditioner was too cold, when I need stewards/ stewardess assistance the gap in connection between carriages is dangerous. No help getting off the train in the destination." (*Line 908*)	I1: "Safety and accessible guiding floor, need to be informed individually two stations ahead, so they do not miss their station." (*Line 515*)
(4) Customer Opportunity	I2: "Expect improvements to the service provider's mobile app to be more accessible to the visually impaired, as there are some buttons just sounding buttons...button. Call centers from train transportation	I2: "Accessibility of the application: upgrade the ticket printing machine because I still need the help of officers when printing tickets; ticket	I1: "Security, safety for yourself and goods and so that blind passengers are not left behind by the train" (*Line 478*) I5: "Economy class seats, hence the seats are not face-to-face, and there is a	I2:" There should be coordination of officers always to be ready to guide passengers both at departure stations and destination stations, especially passengers with	I1: "Train services, when passengers arrive at destination cities such as helping book a reliable taxi." (*Line 524*) I5: "Need to be accompanie

Customer Stages	Research & Train Journey Itinerary (A)	Booking Ticket & Seat (B)	Post Booking & Pre-travel (C)	Travel & Arriving at Destination (D)	Post Travel (E)
	service providers are also not paid toll-free." (*Line 841*)	sheets should be Braille. Mor eover, when the ticket has been booked, I need the itinerary sent to email so I can check again." (*Line 866*)	place for the footrests." (*Line, 1842*)	disabilities." (*Line 921*) I6: "The toilet, if possible, should not be placed close to the connection between train cars. As a blind passenger, I have 1x tried to go to the toilet, and according to my experience, it was scary. *(Line 2161*)	d by an officer. It is convenient; they are considerate. (*Line 1859*)
(5) Customer Experience	I2: "I can access the train transportation provider's mobile app, but in certain parts, still need help from others who are normally sighted." (*Line 845*) I6: "There are applications whose menus are not accessible. We need sighted people to help us." (*Line, 2091*)	I1: "The need for information for disability passenger." (*Line 454*) I4: "Comfort is ok, but I hope officers are more responsive to those who need help, such as disabilities and the elderly." (*Line 1593*)	I1: "We need more attention from the service provider, through their officers & security assist the passenger with disabilities because the disability passenger are also customers." (*Line 485*)	I1: "Information & confirmation during travel should be more accessible." (*Line 518*) I3: "Officers should be trained to understand disabled people who do not need to be pitied but need to be considered." (*Line 1284*)	I2: "Satisfied, need to provide priority seats in a priority carriage, so officer able to give extra care & attention to prioritize passengers." (*Line 935*) I4: "It is convenient; I want to repeat the train ride when possible. (*Line 1630*)

Appendix 2. Master Table of Themes

Focus and Keywords	Lines	Themes
Focus on Phenomena		
I1: Commuter line, online transportation, and banking.	*Line 38* *Line 563*	*Need of Mobility*
I2: Commuter line, haircuts	*Line 107*	*The most frequent service used by blind passenger*
I1: Transportation and banking		
	Line 253	*Overcome mobility barriers*
I1: Go beyond the limitations.		
I3: Service has improved.		
I4: Affordable, comfortable, punctual, reliable	*Line 742*	
I2: There were SOP differences between Jakarta and Purwokerto when I was traveling alone.	*Line 688*	*SOP differences in servicing disability passenger*
I2: Visiting family and going on holidays.	*Line 825*	*Transport accommodation in Java*
Focus on Blind Passenger (BP) Actions		
I2: We discussed what time to leave, what needs to be prepared during the trip, provisions, which station we depart from, the destination station, and the budget.	*Line 2076* *Line 848*	*Itinerary plan*
I6: Determine the schedule in advance and search ticket availability using the app; a backpack is better than a suitcase.	*Line 1472* *Line 458*	*An accessible way to buy a ticket*
I2: I buy the ticket at the nearest minimarket or ask a friend or relative for help.		
I4: I bought the ticket in a nearby minimarket, which is more accessible than a mobile phone.	*Line 892*	*BP actions post booking, pre-travel*
I1: I carry my purse close to my body in a small bag. I do not bring much money; I have to hold a cane in one hand. I like to pack light.	*Line 921*	*BP needs to be assisted at the train station.*
I2: Find the entrance for instructions on the platform's location assisted by officers, take the time for a rapid test 2 hours before departure must have arrived at the station, cost me 80 thousand rupiah.		*BP needs to be assisted in their journey experience on-board*
I2: Visually impaired passengers need help from officers to get to the correct train, carriages, and seats according to the destination when arriving and disembarking at the destination station to the station exit.	*Line 832* *Line 1222* *Line 854* *Line 896*	
	Line 1581	*BP Touchpoints during the itinerary*
Focus on Blind Passenger (BP) Touch Points	*Line 2181*	*BP Touchpoints when buying a ticket*
I2: Mobile phone, internet, mobile app, call center.	*Line 930*	

Focus and Keywords	Lines	Themes
I3: I prefer to meet in person and use a mobile phone.	*Line 1309*	*BP Touchpoints in Pre-travel*
I2: Call a call center, mini market, or mobile app, or ask normal-sighted people for help.		*Assistance needed by BP during travel to the destination*
I2: Prepare ID, train ticket, and rapid test results.	*Line 836*	*BP experience sharing post-travel*
I4: Service needs improvement; the visually impaired are still dependent and need the help of others.	*Line 2076*	
I6: Use your mobile phone to check the clock, call the family who picks up, and chat about the experience verbally.	*Line 863*	
I2: When chatting with friends, also with friends who are blind or in meetings.	*Line 1105*	
I3: I do not like posting photos on social media; I chat with friends.	*Line 881*	*BP needs an accessible website and apps.*
Focus on Blind Passenger (BP) Pain Points	*Line 1179*	
I2: Apps from train service providers still lack access for the visually impaired. I cannot speak on the screen reader, so I have to get help from others.	*Line 908*	*Mini-market ticketing may be offline.*
I6: Some menus do not read the name of the train but do not read the schedule; they just read the images, and some buttons cannot even be clicked.	*Line 515*	*Lack of safety for BP*
I2: Sometimes, when you want to buy tickets, the minimarket network is disrupted, so they cannot sell tickets.	*Line 841*	*BP Worries & Fears*
I3: There is not much access for disabilities at stations, and the condition of the sidewalks and stairs and the arrangement of the locations still need to be improved.		*BP needs better service, access, safety, and to be well informed.*
I2: Concern about 10-15% fear of accidents or train crashes; these concerns arise from the news.	*Line 866*	
I3: The scariest thing for me is the info about train accidents.	*Line 478*	
I2: The air conditioner was too cold, and I needed assistance from the stewards/ stewardess. The gap in connection between carriages is dangerous. No help getting off the train to the destination.	*Line 1842* *Line 921*	*Room for service improvement to BP*
I1: Need safety and accessible guiding floor; need to be informed individually.	*Line 2161*	*Accessible access for BP*

Focus and Keywords	Lines	Themes
Focus on Blind Passenger (BP) Opportunities		*No one left behind*
I2: Expect improvements to the service provider's mobile app to be more accessible to the visually impaired; some buttons are just sounding buttons. Call centers from train transportation service providers are not paid toll-free.	*Line 524*	*Seats Layout needs to be improved.*
I2: Accessibility of the application, upgrading the ticket printing machine, need officers' help when printing tickets, ticket sheets should be Braille, and after the ticket is booked, I need the itinerary in an email.	*Line 1859*	*BP needs better service from officers.*
I1: Security and safety for yourself and your belongings [ ]. The train does not leave blind passengers behind.	*Line 845*	*Toilet location conditions need improvement.*
I5: Economy class seats. The seats are not face-to-face, and there is a place for the footrests.	*Line 2091*	*Provide arrival help for BP.*
I2: Coordination of officers to always be ready to guide blind passengers both at departure stations and destination.	*Line 454*	*Need for considerate assistance.*
I6: If possible, the toilet should not be near the connection between train cars. As a blind passenger, I once tried to go to the toilet; it was scary.	*Line 1593*	*Accessible apps are needed.*
I1: Train services, when passengers arrive at destination cities, such as helping them book a reliable taxi.	*Line 485*	*Importance information to BP*
I5: Need to be accompanied by an officer. It is convenient; they are considerate.	*Line 518*	*Officers' Responsiveness to BP*
Focus on Blind Passenger Customer Experiences (CX)	*Line 1284*	*Accessibility to all passenger*
I2: I can access the train transportation provider's mobile app, but I still need help from normal-sighted people in certain parts.	*Line 935*	*Needs of information access*
I6: There are applications whose menus are not accessible. We need sighted people to help us.	*Line 247*	*Well-trained officers are needed.*
I1: The need for information for disabled passengers.	*Line 264*	*Priority service is important.*
I4: Comfort is okay, but I hope officers are more responsive to those who need help, such as people with disabilities and the elderly.	*Line 1630*	
I1: We need more attention from the service provider, through their officers and security,	*Line 2201*	
	Line 2205	

Focus and Keywords	Lines	Themes
to assist disabled passengers because disabled passengers are also customers. I1: Information and confirmation during travel should be more accessible. I3: Officers should be trained to understand disabled people who do not need to be pitied but need to be considered. I2: Satisfied, need to provide priority seats in a priority carriage so the officer can give extra care and attention to prioritize passengers. I1: Travelling in a group makes you feel safer. The family in the group can help the blinds, and the blinds help each other. I1: The Group takes care of each other and encourages each other to travel long distances safely. I4: It is convenient; I want to repeat the train ride when possible. I1: We always invite and encourage new blind friends to dare to travel and rehabilitate their mentality to know that blindness can also travel; of course, we adjust differently and prove that we can travel safely by train		*Awareness, helping, protect each other in group* *Satisfaction led to willingness to repurchase* *Suitable human touch assistance Mobility Oriented* *Sighted Mobility-Oriented Assistance*
Focus on *Sighted Mobility Oriented Assistance (SMOA)* I4: A sighted person willing to help blind passengers and knows how to assist using the Mobility Orientation procedure. I believe that officers have better Mobility Orientation SOP. I2: Officer, because they have an SOP for assisting blind passengers, low vision cannot help them entirely because they have limitations, too.		