

Determinants of assistive technology adoption among migrant Divyangjan in Delhi: Evidence from a Mixed-Method Study

Pradeep Maurya^{1*}, Dr. Anamika²

¹Ph.D. Research Scholar, Centre for Study in Science Policy, Jawaharlal Nehru University, New Delhi - 110067, India | Email: pradeepmaurya02@gmail.com

²Associate Professor, Centre of Excellence in Pharmaceutical Sciences, Guru Gobind Singh Indraprastha University, Dwarka, New Delhi, India | Email: anamika.ceps@ipu.ac.in

***Corresponding Author:** Pradeep Maurya, Ph.D. Research Scholar, Centre for Study in Science Policy, Jawaharlal Nehru University, New Delhi - 110067, India | Email: pradeepmaurya02@gmail.com

Abstract

Background: Assistive technology (AT) is recognized globally as an essential component of disability inclusion, enabling persons with disabilities to participate independently in education, employment, healthcare, communication, and community life. Although India has introduced several legislative and policy initiatives, including rights of person with Disability Act, 2016, the assistance to disabled person for purchase/fitting of aids and appliances (ADIP) scheme, and the unique disability identity (UDID) program, evidence on the determinants influencing the adoption and sustained utilization of assistive technologies remains limited, particularly among migrant persons with disabilities residing in metropolitan areas.

Objective: This study examines the technological, socioeconomic, institutional, and policy factors influencing assistive technology adoption among migrant persons with disabilities in Delhi and evaluates the effectiveness of existing disability policies and institutional mechanisms in promoting technology-enabled inclusion.

Methods: A mixed-methods research design was employed. Quantitative data were collected from 403 migrant persons with disabilities across the National Capital Territory of Delhi using a structured interview schedule. Qualitative information was obtained through 23 in-depth interviews with government officials, rehabilitation professionals, representatives of non-governmental organizations, technology providers, and disability policy experts. Systematic field observation conducted at rehabilitation centres, government institutions, educational establishments, public transport facilities, and assistive technology distribution camps supplemented the primary data. Quantitative data were analysed using descriptive and inferential statistical techniques, whereas qualitative data were analysed through thematic analysis.

Result: The study demonstrates that assistive technology adoption is determined by a combination of socio-economic status, disability type, educational attainment, institutional support, awareness of government welfare schemes, accessibility of infrastructure and rehabilitation services. Government programs have substantially improved access to assistive devices; however, challenges associated with affordability, maintenance, fragmented institutional coordination, digital exclusion, procedural delays, and inaccessible urban infrastructure continue to restrict sustained utilization.

Conclusion: Assistive technologies alone cannot ensure disability inclusion unless supported by accessible infrastructure, coordinated institutional arrangements, effective policy implementations and user-centred rehabilitation services. Strengthening awareness, improving service delivery, expanding institutional coordination, and promoting affordable technological innovation are essential to advancing disability-inclusive urban development in India.

Keywords: Assistive technology, Disability, *Divyangjan*, Disability Policy, Urban Inclusion, ADIP scheme, UDID, Delhi.

How to cite this article: Maurya P, Anamika. Determinants of assistive technology adoption among migrant Divyangjan in Delhi: Evidence from a Mixed-Method Study. *Int J Drug Deliv Technol.* 2026;16(71s): 891-905. DOI: 10.25258/ijddt.16.71s.104

Determinants of assistive technology adoption among migrant Divyangjan in Delhi: Evidence from a Mixed- Method Study

1. Introduction

Disability is increasingly recognised as a critical public health, human rights, and development issue that affects more than one billion people worldwide. Ensuring equitable participation of persons with disabilities in education, employment, healthcare and social life has become a global priority under the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) and Sustainable Development Goals (SDG). Within this broader framework, assistive technology has emerged as one of the most effective interventions for enhancing functional independence, improving quality of life and promoting social inclusion among persons with disabilities.

Assistive technology encompasses a wide range of products, services and systems designed to maintain or improve an individual's functioning and independence. These technologies include mobility aids, hearing devices, visual assistance technologies, communication systems, digital accessibility tools and intelligent assistive devices that enable individuals to perform daily activities independently. Beyond improving physical functioning, assistive technologies facilitate access to education, employment, healthcare, digital services, transportation and community participation, thereby reducing barriers associated with disability.

India has progressively strengthened its disability policy framework through landmark initiatives such as the Right of Persons with Disability Acts 2016, the Assistance to Disabled Persons for Purchase/ Fitting of Aids and Appliances (ADIP) scheme, Accessible India Campaign (Sugamya Bharat Abhiyan) and Unique Disability Identity (UDID) program. These initiatives collectively seek to improve accessibility and, hence, social protection, promote rehabilitation services and expand access to assistive technologies. The UDID program, for instance, aims to harmonize disability certification and facilitate portability of benefits. However, administrative delays, limited awareness and digital barriers continue to affect implementation, particularly among migrant persons with disabilities.

Despite these policy advances, significant gaps remain between legislative commitments and the lived experience of persons with disabilities. Field evidence indicates that many individuals continue to encounter inaccessible infrastructure, fragmented service delivery, inadequate institutional coordination, financial constraints, limited maintenance services and insufficient awareness of available government schemes. These challenges are often more pronounced among migrant persons with disabilities whose mobility, documentation and social networks may affect access to assistive technologies and welfare

programs. This research paper conceptualises migration as a contextual factor influencing access to technology and policy benefits rather than a primary explanatory variable.

Delhi represents a particularly important context for examining these issues. As the National Capital Territory of India, Delhi hosts major governmental institutions, rehabilitation centres, education institutions, hospitals, non-governmental organisations, and technology providers working in the disability sector. At the same time, rapid urbanisation, socioeconomic disparities, and uneven accessibility create substantial challenges for achieving inclusive urban development. The institutional ecosystem comprises government programs, public sector manufacturers such as ALIMCO, NGOs, CSR initiatives, and digital governance mechanisms like UDID, all of which interact to shape the accessibility and utilization of assistive technologies.

Existing literature has examined disability rights, rehabilitation and assistive technologies from diverse perspectives; however, relatively few empirical studies have analyzed how technological institutional, infrastructural and policy factors collectively influence assistive technology adoption among migrant persons with disabilities in an urban Indian setting. Most previous investigation have relied on administrative data, smaller samples or single- sector analysis, limiting their ability to explain the complex interaction that determines sustained technology use. This research paper addresses the gap by combining large-scale survey data from 403 respondents, qualitative interviews with 23 stakeholders, and extensive field observation to provide an integrated understanding of assistive technology adoption in Delhi.

The present study, therefore, investigates the determinants of assistive technology adoption among migrant persons with disabilities in Delhi through a mixed-method approach. It examines how socioeconomic characteristics, disability type, institutional support, accessibility of public infrastructure, awareness of welfare schemes and policy implementation interact to influence technology adoption and utilization. By integrating quantitative and qualitative evidence, the study contributes to the growing body of knowledge on disability-inclusive development and offers evidence-based recommendations for strengthening assistive technology policies, institutional coordination, and inclusive urban governance in India.

2. Research objectives

The study was undertaken to achieve the following objectives:

1. To examine the adoption and utilization of assistive and mobility technologies among migrant persons with disabilities in Delhi.

Determinants of assistive technology adoption among migrant Divyangjan in Delhi: Evidence from a Mixed- Method Study

2. To identify the socio-economic, demographic, and institutional factors influencing assistive technology adoption.
3. To assess the influence of disability policies, accessible infrastructure and urban governance on technology utilization.
4. To evaluate the effectiveness of financial and institutional support provided through government agencies, NGOs, ALIMCO and CSR initiatives.
5. To propose policy recommendations for strengthening disability- inclusive technology adoption and urban accessibility in India. These objectives are consistent with the conceptual framework and scope defined in the research.

3. Research Methodology

3.1 Research design

The present study adopted a mixed-method research design to investigate the technological, institutional and policy environment influencing assistive technology adoption among migrant persons with disabilities in Delhi. The mixed-methods approach was selected because it enabled the integration of quantitative evidence on technology adoption patterns with qualitative insights into institutional practices, policy implementation, and user experiences. This design facilitates triangulation of findings and provides a comprehensive understanding of disability inclusion in an urban context.

The quantitative component generated empirical evidence regarding the adoption and utilization of assistive technologies, while the qualitative component explored stakeholders' perspectives on disability policies, rehabilitation services, accessibility, institutional coordination, and implementation challenges. Combining these approaches enhanced the validity and reliability of the study by capturing both measurable outcomes and contextual realities. The methodological approach follows the research framework described in the paper.

3.2. Study area

The study was conducted in the National Capital Territory (NCT) of Delhi, India. Delhi was purposely selected because it functioned as the country's principal centre for disability policy implementation, rehabilitation services, specialised healthcare, higher education and assistive technology distribution. The city hosts major governmental institutions, rehabilitation centers, education institutions, hospitals, disability organizations and technology providers serving persons with disabilities.

Delhi also represents one of India's largest destinations for internal migration. Migrant persons with disabilities

frequently relocate to Delhi seeking better educational opportunities, healthcare, rehabilitation facilities, employment and access to government welfare programs. Consequently, Delhi provides an appropriate setting for examining how assistive technologies, public policies and institutional arrangements interact within our rapidly urbanizing metropolitan environment.

3.3 Study population

The study population consisted of migrant persons with disabilities (*Divyangjan*) residing in different districts of Delhi. Respondents represented diverse disability categories, including locomotor disability, visual impairment, hearing impairment and multiple disabilities. Individuals belonging to different age groups, educational backgrounds, occupational categories, and income levels were included to ensure broad representation of the disability population.

Migration was treated as a contextual factor influencing access to assistive technology, institutional services and government benefits rather than as the principal explanatory variable. Respondents included individuals who had migrated from other Indian states, had resided in Delhi for at least two years, and did not own permanent residential property within the city. This operational definition aligns with the scope of the research.

3.4 Sample Size and Sampling Procedure

The quantitative component comprised 403 migrant persons with disabilities, selected using a structured sampling strategy designed to ensure representation across disability categories and socioeconomic groups. Participants were recruited from rehabilitation centers, educational institutions, government facilities, disability organization, community settings, and assistive technology distribution centers located across the National Capital Territory of Delhi.

The qualitative component included 23 key stakeholders' interviews involving government officials, representatives of non-governmental organisations, rehabilitation professionals, assistive technology providers, disability rights advocates, and policy experts. These stakeholders were purposively selected their extensive experience in disability governance, rehabilitation services, technology, and the implementation of disability policies.

3.5 Data collection

Primary data were collected over approximately five months (February 2025 to July 2025) using multiple complementary techniques. The quantitative survey employed a structured interview schedule covering demographic characteristics, migration history,

Determinants of assistive technology adoption among migrant Divyangjan in Delhi: Evidence from a Mixed- Method Study

educational attainment, employment status, disability profile, awareness of government welfare schemes, ownership and utilization of assistive technologies, accessibility of infrastructure, rehabilitation services, and institutional support.

Qualitative data were obtained through semi- structured interviews with key stakeholders. These interviews explored experiences with disability policy implementation, institutional coordination, accessibility standards, rehabilitation services, digital governance, assistive technology distribution, and barriers to disability inclusion.

To complement survey and interview data, systematic field observations were undertaken at rehabilitation centres, hospitals, education institutions, metro stations, public buildings, disability camps and assistive technology distribution programs. These observations provided contextual evidence regarding accessibility, infrastructure, service delivery and practical utilization of assistive technologies.

3.6 Variables of the study

The principal dependent variable was the adoption and utilization of assistive technology among migrant persons with disabilities.

The independent variables included:

- Age
- Gender
- Occupation
- Household income
- Disability category
- Duration of migration
- Awareness of disability rights
- Awareness of government welfare schemes
- Institutional support
- Rehabilitation services
- Accessibility of public infrastructure
- Digital accessibility
- Financial assistance
- NGO support
- CSR interventions

These variables were selected based on the conceptual framework developed through the review of disability

studies, technology adoption theories and public policy literature.

4. Results and Discussions

4.1 Types of Disability and Technology Adoption

The study examined the range of assistive technologies used by migrant persons with disabilities to support mobility, communication, education, employment and independent living. The findings indicate that respondents utilize their diverse spectrum of assistive devices depending on the nature and severity of their disability. Mobility aids such as manual wheelchairs, tricycles, crutches, walkers, callipers, prosthetic devices and orthotic supports were predominantly used by respondents with locomotor disabilities. Individuals with visual impairments relied on white canes, braille learning materials, screen readers, magnifiers and smartphone-based accessibility applications. Hearing-impaired respondents reported using hearing aids, cochlear implants, and communication support devices, while persons with multiple disabilities often required combinations of assistive technologies to meet their functional needs.

The findings demonstrate that the selection of assistive technology was closely associated with disability type, education status, affordability and institution support. Respondents who received rehabilitation services and professional guidance were more likely to adopt appropriate assistive technology than those lacking institutional support.

Table 4.1. Type of Disability, Gender-wise Distribution, and Use of Assistive Devices among Persons with Disability (PwD).

Types of Disability	No of PwD	No of Male	No of Female	No of Male Using Device	No of Female Using Device	No of Using Device	Purchased by Self	Obtained by Others

Determinants of assistive technology adoption among migrant Divyangjan in Delhi: Evidence from a Mixed- Method Study

					e			
--	--	--	--	--	---	--	--	--

Determinants of assistive technology adoption among migrant Divyangjan in Delhi: Evidence from a
Mixed- Method Study

Locomotive Disability	98	76	22	54	16	70	25	45
Acid Attack Victim	2	0	2	0	0	0	0	0
Autism Spectrum	58	46	12	3	0	3	0	0
Blood Disorder	10	8	2	0	0	0	0	0
Cerebral Palsy	12	9	3	1	0	1	0	1
Chronic Neurological Conditions	6	2	3	3	2	5	1	4
Down Syndrome	7	5	2	0	0	0	0	0
Dwarfism	4	4	0	0	0	0	0	0
Hearing Impairment	38	23	15	23	15	38	11	27
Intellectual Disability	24	13	11	0	0	0	0	0
Leprosy Cured Person	2	2	0	0	0	0	0	0
Mental Behaviour	2	1	1	0	0	0	0	0
Multiple Disabilities	30	19	11	16	10	26	12	14
muscular dystrophy	13	6	7	4	5	9	1	8

Determinants of assistive technology adoption among migrant Divyangjan in Delhi: Evidence from a Mixed- Method Study

Speech & Language Disability	9	4	5	2	3	5	0	5
Visual Impairments	106	82	24	73	22	95	41	41

4.2 Sources of Assistive Technologies

The study found that assistive technologies were obtained through multiple channels, including government welfare programs, ALIMCO distribution centres, non-governmental organisations, rehabilitation institutions, hospitals, education institutions, corporate social responsibility (CSR) initiatives and self-financing. Government-sponsored programs emerged as a major source of assistive devices for economically disadvantaged respondents, while NGO and charitable organisations complemented government efforts by facilitating outreach, counselling, rehabilitation and technology distribution.

Despite these institutional mechanisms, qualitative evidence revealed that many respondents experience delay in procurement, procedural complexities and limited post-distribution, maintenance services, affecting long-term utilisation of assistive technologies.

Understanding the sources through which respondents acquired assistive technologies provides valuable insights into the effectiveness of institutional support mechanisms.

Table 4.2. Source-wise Instrumental Assistance Received by Persons with Disabilities (PwD)

Instrumental Assistance	Total No of Sample	No of Instrumental Help in the Year 2024	Assessment done of Instrumental Assistance	Assessment Not done of Instrumental Assistance
Government	7	3000	3	4
NGO/Civil Society	13	320725	5	8
Commercial/ Pvt. Institutions	3	1082	2	1

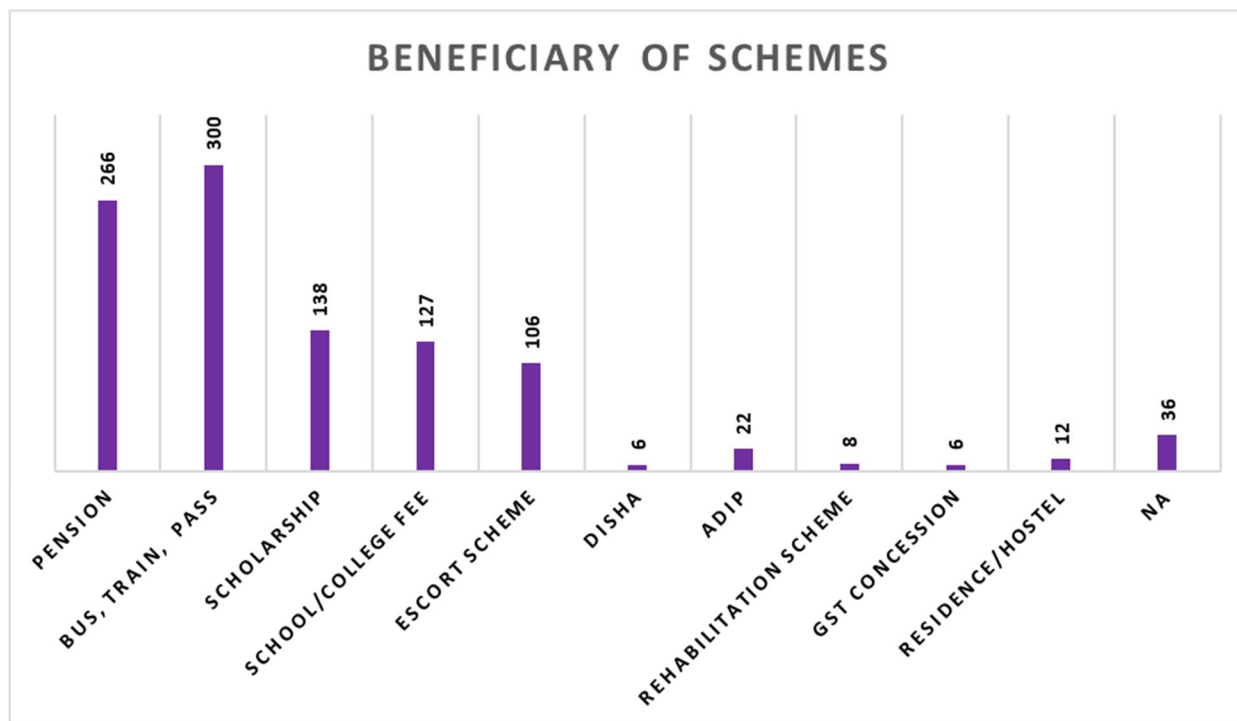
Table 4.3 Source-wise Financial Assistance Provided to Persons with Disabilities (PwD) in 2024

Nature of Organisations	Total No of Sample	No of Financial Help in a Year
Government	7	750
NGO/Civil Society	13	1408

4.4 Awareness of government welfare schemes

Awareness regarding disability rights and government welfare programs plays a crucial role in improving access to assistive technologies. Findings indicate that respondents who possess greater awareness regarding disability certification, the rights of persons with disabilities, the assistance to disabled persons for purchase fitting of aids and appliances ADIP scheme, the unique disability identity UDID program, educational scholarship, transport concession, and rehabilitation services demonstrated better utilization of assistive technologies than respondents with limited policy awareness.

Determinants of assistive technology adoption among migrant Divyangjan in Delhi: Evidence from a Mixed- Method Study



Stakeholder interviews suggested that awareness remains uneven among the migrant population due to information gaps, documentation requirements, and limited community outreach programs. These findings show the importance of strengthening awareness campaigns and simplifying administrative procedures to improve equitable access to disability services.

4.3 Socio-demographic Characteristics of the Respondents

A total of 403 migrant persons with disabilities participated in the study. The study population comprised 290 (72%) males and 113(28.0%) females. Most respondents belonged to the economically productive age group (19-29 years) and majority were unmarried. Students constituted the largest occupational group, followed by employed and unemployed respondents. The socio demography profile of the respondents is presented in Table 4.3.

Table 4.3. Demographic, Educational, and Employment Profile of Persons with Disability (PwD)

Variables related to Persons with Disability (PwD)	Total
Sex	
Male	290
Female	113
Age Group	
19-29	279
30 – 39	80
40 – 49	36
50 – 59	6
60 and above	2
Marital Status	

Determinants of assistive technology adoption among migrant Divyangjan in Delhi: Evidence from a Mixed- Method Study

Single	319
Married	84
Education	
Illiterate	23
Matric	36
Senior Secondary	36
Graduation	98
Post-Graduation	87
Doctorate	34
Special Education	89
Employment	
Employee (Govt. or Private)	69
Self-Employed	9
Housewife	21
Student	263
Unemployed	41
Family Income	
Below 1,00000	210
1,00000 - 2,00000	46
2,00000 - 3,00000	28
3,00000 - 4,00000	36
4,00000 - 5,00000	17
More than 5,00000	66
Use of Device	
Using Device	239
Not Using Device	164

4.4 Assistive technology adoption

Among 403 respondents, 252 (62.5%) reported using one or more Assistive technologies, whereas 151 (37.5%) did not use Assistive devices.

A one-sample Z-test was performed to determine whether the observed level of assistive technology adoption differed significantly from the assumed benchmark of 50%. The analysis demonstrated a statistically significant difference ($Z = 5.02$, $p < 0.05$), indicating a higher level of assistive technology adoption among the study participants.

Group	Adoption (in %)	Mean (Xi)
-------	-----------------	-----------

Determinants of assistive technology adoption among migrant Divyangjan in Delhi: Evidence from a Mixed- Method Study

Visual	89.6 %	0.896
Hearing	100 %	1.000
Locomotor	71.4 %	0.714
Multiple	86.7 %	0.867
Autism/Intellectual	5 %	0.050
Others	10 %	0.100
Overall Mean Adoption ($\bar{X} = 0.625$)		

4.5. Gender Differences in Assistive Technology Adoption

An independent sample **t-test** was conducted to examine gender differences in assistive technology adoption. Female respondents demonstrated a slightly higher adoption rate (64.6%) than male respondents (61.7%). However, this difference was not statistically significant ($t = 0.55$, $P > 0.05$). Therefore, gender was not found to be a significant determinant of assistive technology adoption.

4.6 Financial Assistance and Assistive Technology Adoption

The relationship between financial assistance and assistive technologies adoption was analyzed using an independent sample t-test.

The results demonstrated a statistically significant association ($T = 6.834$, $p < 0.001$), indicating that respondents receiving financial or instrumental assistance were significantly more likely to adopt assistive technologies than respondents who did not receive such assistance

Table 4.5. Financial Assistance by Different Agencies and Its Assessment for Persons with Disabilities (PwD)

Financial Assistance giving Bodies	Donation /Grants	Salary	Residential Service	Training/ Rehabilitation	Assess Adequacy of Financial Assistance	Not Assess Adequacy of Financial Assistance
Government	0	0	0	3	1	6
NGO/Civil Society	1	1	2	4	4	9

Determinants of assistive technology adoption among migrant Divyangjan in Delhi: Evidence from a Mixed- Method Study

Commercial/Pvt. Institutions	1	1	0	0	1	2
------------------------------	---	---	---	---	---	---

4.6 Institutional support

The study found that respondents obtain assistive technologies through multiple institutional resources, including government welfare programs, ALIMCO, rehabilitation centres, hospitals, non-government organisations, and corporate social responsibility initiatives. Government agencies represented the major source of assistive technology provisions while NGO and CSR initiatives complemented public sector efforts by providing rehabilitation services, awareness programs and assistive devices.

Table 5.7. Source-wise Financial Assistance Provided to Persons with Disabilities (PwD) in 2024

Nature of Organizations	Total No of Sample	No of Financial Help in a Year
Government	7	750
NGO/Civil Society	13	1408
Commercial/Pvt. Institutions	3	1004

4.7 Accessibility of public infrastructure

Respondents reported varying levels of accessibility across transportation systems, public buildings, education institutions, healthcare facilities, workplaces and digital service centers. While improvements have been achieved through the Accessible India campaign and infrastructure modernization, several barriers continue to restrict independent mobility. Common challenges included inadequate ramps, inaccessible footpaths, limited tactile paving, insufficient accessible toilets, poor signage, and inconsistent implementation of universal design standards. The qualitative findings further emphasize that assistive technologies alone cannot ensure disability inclusion unless supported by accessible environments that enable their effective utilization.

Accessibility of the physical environment significantly influences the effectiveness of assistive technologies in promoting independent mobility and social participation.

Table 4.7. Accessibility of Public Buildings in Delhi as Reported by Persons with Disabilities (PwD)

Are public buildings in Delhi Accessible	
Particulars	No of Response
Yes	89
No	51
Partially	168
Not Applications	95

Determinants of assistive technology adoption among migrant Divyangjan in Delhi: Evidence from a Mixed- Method Study

4.8 Barriers to technology adoption

Respondents identify several barriers affecting the adoption and sustained utilization of assistive technologies. The most frequently reported barriers included financial constraints, inadequate awareness of government schemes, administrative delays, inaccessible public infrastructure, lack of maintenance services and limited institution coordination. These barriers collectively reduce the effective utilization of assistive technology despite the availability of supportive policy initiatives.

Table 4.8 Common Physical Barriers Encountered by Persons with Disabilities (PwD) in Public Spaces in Delhi

Lack or poorly designed ramps, lifts, elevators	279
Narrow doorways and corridors	303
Lack of boarding ramps in Buses, train,	273
Absence of audio-visual announcements signals	270
Uneven, broken, Encroachments, footpaths	261

5.0 Discussion

The present study demonstrates that assistive technology adoption among migrant persons with disabilities is determined by the interaction of socio-economic characteristics, disability type, institutional support, awareness of welfare programs, accessibility of public infrastructure and rehabilitation services. The mixed-methods design enabled integration of quantitative evidence with stakeholder perspectives, providing a comprehensive understanding of disability inclusion within an urban governance framework.

The findings indicate that assistive technologies significantly enhance mobility, communication, educational participation, employment opportunities and social inclusion. However, their effectiveness depends not only on availability but also on affordability, accessibility, institutional coordination, maintenance services and user awareness. These observations reinforce international evidence emphasising that disability inclusion requires a holistic ecosystem integrating technology, policy, rehabilitation, and an accessible environment.

Government initiatives such as Right of Person with Disabilities Act, ADIP scheme, the UDID programme and Accessible Indian campaign have substantially expanded opportunities for persons with disabilities. Nevertheless, implementation challenges continue to affect equitable assets, particularly among the migrant population who frequently encounter documentation barriers, information gaps and fragmented institutional support. Strengthening coordination among government agencies, NGO, rehabilitation centers, healthcare institutions and community organizations will therefore be essential for improving program effectiveness and ensuring sustainable disability inclusion.

6.0 Policy implications

The findings of the present studies have important implications for disability policies, assistive technology provisions and inclusive urban governance in India. Although legislative initiatives such as the Right of Persons with Disabilities Act 2016, the Assistance to Disabled person for Purchase/fitting of aids and appliances (ADIP) scheme, Accessible India Campaign (Sugamaya Bharat Abhiyan) and Unique Disability Identity (UDID) program have strengthened the policy framework for disability inclusion, the study demonstrates that several implementation gaps continue to limit equitable access to assistive technologies.

One of the major policy implications emerging from this study is the need to strengthen awareness regarding disability rights and available government welfare schemes. The finding suggests that many migrant persons with disabilities remain inadequately informed about assistive technology programs, disability certification procedures, educational scholarships, transport concessions, rehabilitation services and financial assistance. A comprehensive awareness campaign implemented through local governments, education institutions, healthcare facilities, rehabilitation centres, and community organisations would substantially improve programme utilisation.

Fragmentation of institutional responsibility frequently results in duplication of services, administrative delays, and inconsistent follow-up mechanisms. Establishing integrity disability service centers and strengthening interdepartmental collaboration would improve efficacy and beneficiary satisfaction.

The findings also emphasise the importance of universal accessibility in urban planning. Assistive technology can only achieve its intended benefits when supported by a barrier-free environment. Emphasise the importance of universal accessibility in urban planning; assistive

Determinants of assistive technology adoption among migrant Divyangjan in Delhi: Evidence from a Mixed- Method Study

technology can only achieve its intended benefits when supported by a barrier-free transportation system, accessible public buildings, inclusive educational institutions, healthcare facilities, workplaces, and digital governance platforms. Future Urban Development policy should therefore incorporate universal design principles from the planning stage rather than introducing accessibility as a subsequent modification.

Finally, greater investment should be directed towards research, innovation, indigenous manufacturing, and affordable assistive technologies tailored to the diverse needs of persons with disability categories comfort stops strengthening collaboration among research institutions, universities, industry partners, and government agencies can facilitate the development of cost-effective technologies that enhance accessibility while reducing dependence on imported devices.

7.0 Conclusion

The present study provides comprehensive empirical evidence regarding the determinants of assistive technology adoption among migrant persons with disabilities in the national capital of Delhi. By integrating quantitative evidence from 403 respondents with qualitative insights obtained from 23 key stakeholders, the study offers a multidimensional understanding of disability inclusion within an urban governance framework.

The findings demonstrate that assistive technologies significantly improve mobility, communication, education participation, employment opportunities, healthcare access, and overall quality of life among persons with disabilities. However, technology adoption is influenced by a complex interaction of socioeconomic characteristics, disability type, institutional support, awareness of welfare programs, financial accessibility, rehabilitation services, and the accessibility of physical and digital infrastructure. These findings confirm that technological interventions alone cannot ensure meaningful disability inclusion unless supported by effective governance, inclusive public infrastructure, coordinated institutional arrangements and responsive rehabilitation systems.

The study also highlights the substantial contribution of government welfare programs, rehabilitation institutions, non-government organization and corporate social responsibility initiatives in expanding access to assistive technologies. Nevertheless, persistent implementation challenges- including limited awareness, administrative delays, fragmented institutional coordination, inadequate maintenance services, financial constraints and inaccessible environment continue to affect the long-term utilization of assistive technologies.

The mixed-methods research design adopted in this investigation represents an important methodological contribution by integrating quantitative survey findings with qualitative stakeholders' perspectives and field observations. This triangulated approach provides a more comprehensive understanding of disability policy implementation than studies relying exclusively on quantitative or qualitative evidence.

From a policy perspective, the study emphasises the need to strengthen awareness programs, improve institutional coordination, expand financial support for assistive technology acquisition and maintenance, promote universal accessibility in urban planning, encourage indigenous technological innovation, and enhance monitoring and evolution mechanisms for disability programs. These measures are essential for achieving the objectives of the Right of Person with Disability Act 2016 and advancing the Sustainable development goals related to inclusive and equitable development.

Overall, the study concludes that assistive technology should be viewed not merely as rehabilitation devices but as instruments of empowerment, social justice and human rights. Strengthening the access to the technology ecosystem through integrated policy interventions will significantly contribute to improving the quality of life, dignity, independence and social participation of persons with disabilities in India.

References

- Abbott, P., & Jepson, N. (2021). Assistive technology and disability inclusion in low- and middle-income countries. *Disability and Rehabilitation: Assistive Technology*, 16(7), 673–681.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- ALIMCO. (2024). *Artificial Limbs Manufacturing Corporation of India*. <https://www.alimco.in>
- Andrich, R., & Mathiassen, N. E. (2013). The conceptual modelling of assistive technology outcomes. *Disability and Rehabilitation: Assistive Technology*, 8(3), 213–219.
- Barnes, C. (1991). *Disabled people in Britain and discrimination*. Hurst & Company.
- Barnes, C., & Mercer, G. (2010). *Exploring disability* (2nd ed.). Polity Press.

Determinants of assistive technology adoption among migrant Divyangjan in Delhi: Evidence from a Mixed- Method Study

- Bickenbach, J. E. (2012). The International Classification of Functioning, Disability and Health and its relationship to disability studies. *Disability & Society*, 27(3), 337–352.
- Borg, J., Larsson, S., & Östergren, P.-O. (2011). The right to assistive technology. *The Lancet*, 378(9806), 1863–1865.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Cook, A. M., & Polgar, J. M. (2020). *Assistive technologies: Principles and practice* (5th ed.). Elsevier.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.
- Department of Empowerment of Persons with Disabilities. (2021). *National Action Plan for Skill Development of Persons with Disabilities*. Government of India.
- Department of Empowerment of Persons with Disabilities. (2024). *Unique Disability ID (UDID) Project*. Government of India. <https://www.swavlambancard.gov.in>
- Department of Empowerment of Persons with Disabilities. (2024). *ADIP Scheme*. Ministry of Social Justice and Empowerment. <https://depwd.gov.in>
- Department of Empowerment of Persons with Disabilities. (2024). *Accessible India Campaign (Sugamya Bharat Abhiyan)*. Government of India. <https://depwd.gov.in>
- Fuhrer, M. J. (2001). Assistive technology outcomes research. *Archives of Physical Medicine and Rehabilitation*, 82(4), 528–535.
- Government of India. (1995). *The Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995*.
- Government of India. (2016). *National Policy for Persons with Disabilities*. Ministry of Social Justice and Empowerment.
- Goggin, G., & Ellis, K. (2020). *Disability and digital inequalities*. Routledge.
- Government of India. (2016). *The Rights of Persons with Disabilities Act, 2016* (Act No. 49 of 2016). Ministry of Law and Justice.
- Government of India. (2018). *Rights of Persons with Disabilities Rules, 2017*. Ministry of Social Justice and Empowerment.
- Imrie, R. (1996). *Disability and the city*. Paul Chapman Publishing.
- Imrie, R., & Hall, P. (2001). *Inclusive design: Designing and developing accessible environments*. Spon Press.
- International Organization for Standardization. (2016). *ISO 9999: Assistive products for persons with disability—Classification and terminology*. ISO.
- Khasnabis, C., Mirza, Z., & MacLachlan, M. (2015). Opening the GATE to inclusion for people with disabilities. *The Lancet*, 386(10010), 2229–2230.
- Lenker, J. A., & Paquet, V. L. (2003). A review of conceptual models for assistive technology outcomes research. *Assistive Technology*, 15(1), 1–15.
- MacLachlan, M., Banes, D., Bell, D., et al. (2018). Assistive technology policy: A global perspective. *Disability and Rehabilitation: Assistive Technology*, 13(5), 417–424.
- Ministry of Housing and Urban Affairs. (2016). *Harmonised Guidelines and Space Standards for Barrier-Free Built Environment for Persons with Disabilities and Elderly Persons*. Government of India.
- Ministry of Social Justice and Empowerment. (2022). *Annual Report 2021–22*. Government of India.
- Ministry of Electronics and Information Technology. (2021). *Guidelines for Indian Government Websites (GIGW)*.
- NITI Aayog. (2018). *National Strategy for Artificial Intelligence AIForAll*. Government of India.
- National Statistical Office. (2019). *Persons with Disabilities (Divyangjan) in India: A Statistical Profile 2019*. Ministry of Statistics and Programme Implementation.
- Office of the Chief Commissioner for Persons with Disabilities. (2023). *Annual Report*. Government of India.
- Oliver, M. (1990). *The politics of disablement*. Macmillan.
- Oliver, M. (1996). *Understanding disability: From theory to practice*. Macmillan.

Determinants of assistive technology adoption among migrant Divyangjan in Delhi: Evidence from a Mixed- Method Study

- Oliver, M., & Barnes, C. (2012). *The new politics of disablement*. Palgrave Macmillan.
- Organisation for Economic Co-operation and Development. (2021). *Disability, work and inclusion*. OECD Publishing.
- Rehabilitation Council of India. (2022). *Annual Report*. Government of India.
- Reserve Bank of India. (2022). *Financial inclusion for persons with disabilities*. RBI.
- Ritchie, J., Lewis, J., Nicholls, C., & Ormston, R. (2014). *Qualitative research practice* (2nd ed.). SAGE Publications.
- Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press.
- Scherer, M. J., & Craddock, G. (2002). Matching person and technology. *Technology and Disability*, 14(3), 125–131.
- Scherer, M. J. (2005). *Living in the state of stuck*. Brookline Books.
- Shakespeare, T. (2014). *Disability rights and wrongs revisited* (2nd ed.). Routledge.
- Shakespeare, T., Iezzoni, L. I., & Groce, N. E. (2019). Disability and the training of health professionals. *The Lancet*, 393(10169), 1127–1128.
- Steel, E., Holloway, C., Popplewell, N., et al. (2023). Global challenges in access to assistive technology. *The Lancet Global Health*, 11(2), e177–e179.
- Unique Identification Authority of India. (2022). *Aadhaar and disability inclusion*. Government of India.
- United Nations. (2006). *Convention on the Rights of Persons with Disabilities*. United Nations.
- United Nations. (2015). *Transforming our world: The 2030 Agenda for Sustainable Development*. United Nations.
- United Nations Development Programme. (2021). *Human development report 2021/2022*. UNDP.
- United Nations Economic and Social Commission for Asia and the Pacific. (2018). *Building disability-inclusive societies in Asia and the Pacific*. United Nations.
- United Nations Educational, Scientific and Cultural Organization. (2020). *Global education monitoring report 2020: Inclusion and education*. UNESCO.
- United Nations Children's Fund. (2021). *Seen, counted, included: Using data to shed light on the well-being of children with disabilities*. UNICEF.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425–478.
- World Bank. (2022). *Disability inclusion overview*. World Bank.
- World Health Organization. (2001). *International classification of functioning, disability and health (ICF)*. WHO.
- World Health Organization. (2011). *World report on disability*. WHO.
- World Health Organization. (2022). *Global report on health equity for persons with disabilities*. WHO.
- World Health Organization, & United Nations Children's Fund. (2022). *Global report on assistive technology*. WHO.
- Yin, R. K. (2018). *Case study research and applications* (6th ed.). SAGE Publications.