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INFORMATION-SEEKING BEHAVIOR, FORMAT PREFERENCES, AND ACCESSIBILITY BARRIERS AMONG DIVYANGJAN PATRONS: A MULTI-CENTER EMPIRICAL STUDY OF 280 BRAILLE LIBRARY USERS IN GUJARAT

Ms. Jalpa R. Jadav

Understanding the lived experiences, format preferences, and information-seeking behaviors of print-disabled patrons is indispensable for designing user-centered Braille and digital libraries. While existing Indian library science literature has focused primarily on top-down institutional audits of university libraries, the direct voices of grass-roots Braille library patrons remain underrepresented. This empirical research paper analyzes primary survey data gathered from 280 Divyangjan (visually and multiply impaired) library users across 14 specialized Braille libraries in Gujarat State, India (20 active patrons sampled per center using researcher-assisted and Braille-formatted questionnaires). Grounded in Wilson's model of information-seeking behavior and tactile reading psychology, the study evaluates six core dimensions: (1) socio-demographic stratification, (2) library awareness and physical commuting logistics, (3) reading format preferences and subject utilization, (4) interior spatial and ergonomic micro-accessibility, (5) library orientation and staff support dynamics, and (6) acute barriers to information retrieval. The findings reveal a pronounced gender disparity (72.14% male vs. 27.86% female patrons), a predominantly youth demographic (61.07% aged 16–25 years), and substantial pre-matriculation educational vulnerability (41.79% below the 10th standard). Although 87.50% of patrons actively use assistive technology and 83.21% confirm digital book availability, embossed tactile Braille remains the primary preferred reading format for 52.14% of users, followed by audio/talking books (29.29%) and screen-reader digital texts (18.57%), with 56.07% combining multiple formats. Furthermore, an interior ergonomic audit exposes critical micro-accessibility gaps in wheelchair-reachable shelving (13.06%) and unobstructed bookcase aisles (1.49%). Most significantly, the study uncovers a 'User Orientation Paradox': 67.14% of surveyed patrons have never received formal library orientation, driving 58.93% to demand regular user training and contributing directly to the 26.79% who face active barriers—led by lack of trained staff (29.29%) and inaccessible digital tools (26.43%). Targeted user-empowerment interventions are proposed.

Keywords: *Information-Seeking Behavior, Divyangjan Patrons, Braille Literacy, Format Preferences, Talking Books, Ergonomic Micro-Accessibility, User Orientation, Accessibility Barriers, Gujarat Braille Libraries*

1. Introduction and Theoretical Framework of Patron Information Behavior

1.1 Centering the Print-Disabled Patron in Library and Information Science

The ultimate measure of any library system lies not in the sheer volume of its shelved holdings, but in the ease, dignity, and autonomy with which its patrons can discover, retrieve, and assimilate needed information (Irvall & Nielsen, 2005; Ranganathan, 1931). For persons with visual impairments—encompassing both total blindness and low vision, as well as individuals with compounding auditory or locomotor disabilities (collectively termed Divyangjan in Indian

administrative discourse)—information-seeking is mediated by a complex interplay of sensory modality, educational background, commuting mobility, format availability, and interpersonal staff support (Bhardwaj & Kumar, 2017; Kumar & Singh, 2020; Rayini, 2017).

In mainstream information science theory, Wilson's (1999) macro-model of information-seeking behavior posits that an individual's quest for information arises from a context-specific need (educational, vocational, recreational, or civic) but is immediately confronted by 'activating mechanisms' and 'intervening variables'—which may be personal, role-related, environmental, or source-characteristic barriers. When applied to visually impaired learners in developing countries (Dutta, 2002; Phukubje & Ngoepe, 2017; Majinge & Stilwell, 2013), these intervening variables assume acute physical and technological forms: how does a blind student commute to a district library without accessible public transit? Once inside, are aisles wide enough and shelves labeled in tactile Braille? Does the patron possess the tactile fluency to read Grade 2 Braille or the digital literacy to operate a screen reader? And when technological interfaces fail, are library staff trained to provide respectful, competent guidance?

1.2 The Cognitive and Socio-Economic Value of Multi-Format Literacy

A central debate in contemporary visual impairment scholarship concerns the relationship between traditional embossed Braille literacy, auditory learning (talking books/DAISY), and synthesized-speech digital reading (D'Andrea, 2009; Heller & Gentaz, 2014; Millar, 1997; Seidenberg, 2017). Cognitive neuroscientists and psycholinguists have demonstrated that reading tactile Braille activates spatial and orthographic processing regions in the visual cortex via cross-modal neuroplasticity, providing direct mastery of spelling, punctuation, paragraph structure, and mathematical notation that passive listening to audio recordings cannot replicate (Fischer-Baum & Englebretson, 2016; Snowling et al., 2022). Furthermore, classic and contemporary socio-economic studies (Ryles, 1996, 2000; Schroeder, 1989, 1996; Silverman & Bell, 2018; Lund & Cmar, 2019; Sheffield et al., 2022) prove that adults who learned to read tactile Braille in childhood achieve significantly higher rates of postgraduate education, employment, financial independence, and psychological well-being than those who relied exclusively on audio or sighted readers. At the same time, audio and digital formats remain indispensable for rapid scanning of voluminous reference texts and for individuals who acquire visual impairment later in life (Cornish, 2014; Herzberg & Rosenblum, 2019). Evaluating how Indian Divyangjan patrons navigate and combine these formats in their daily library use is therefore a critical empirical priority.

2. Socio-Demographic Stratification of Divyangjan Library Patrons (N = 280)

2.1 Gender Disparity, Youth Concentration, and Educational Vulnerability

To capture a representative statewide portrait of Divyangjan library patrons in Gujarat, 20 active library users were surveyed at each of the 14 Braille libraries across the state, yielding a total sample of N = 280 respondents. Because self-administered ink-print surveys exclude visually impaired participants, the questionnaire (Appendix III of the study) was prepared in embossed Braille and administered with trained researcher and librarian assistance to ensure 100%

comprehension and response accuracy. Table 1 and Figure 1 (Panel B) present the complete socio-demographic profile of the 280 surveyed patrons.

Table 1

Socio-Demographic and Disability Profile of Surveyed Divyangjan Patrons Across 14 Braille Libraries in Gujarat (N = 280)

Socio-Demographic Variable	Category / Stratum	Frequency (n / 280)	Percentage (%)	Sociological & Educational Interpretation
Gender Distribution	Male Patrons	202	72.14% (72%)	Significant male dominance in library access.
Gender Distribution	Female Patrons	78	27.86% (28%)	Severe gender gap due to mobility/safety barriers.
Age Group Distribution	Below 16 Years (School Children)	4	1.43% (1%)	Served primarily inside school classrooms.
Age Group Distribution	16–25 Years (Higher Sec. & College Youth)	171	61.07% (61%)	Core demographic: students & exam aspirants.
Age Group Distribution	26–35 Years (Young Adults & Job Seekers)	63	22.50% (23%)	Active in vocational & competitive exam prep.
Age Group Distribution	Above 45 Years (Middle-Aged & Seniors)	42	15.00% (15%)	Recreational, spiritual, and news readers.
Educational Qualification	Below 10th Standard (Pre-Matriculation)	117	41.79% (42%)	Largest group; high school-dropout vulnerability.
Educational Qualification	10th–12th Standard (Secondary / HSC)	67	23.93% (24%)	Transitioning toward higher/vocational study.
Educational Qualification	Graduate (Bachelor's Degree)	47	16.79% (17%)	University-educated Divyangjan cohort.

Socio-Demographic Variable	Category / Stratum	Frequency (n / 280)	Percentage (%)	Sociological & Educational Interpretation
Educational Qualification	Postgraduate (Master's Degree & Above)	20	7.14% (7%)	Advanced scholars and research aspirants.
Educational Qualification	Others (Vocational Diplomas / ITI / Music)	29	10.36% (10%)	Enrolled in specialized skill/music programs.
Nature of Disability	Visual Impairment (Blindness & Low Vision)	274	97.85%	Primary target population of Braille libraries.
Nature of Disability	Multiple Disabilities (Visual + Hearing/Speech)	6	2.15%	Compounded sensory needs (deaf-blindness).

Note. Compiled from Section 6.4.1 (Tables 6.17, 6.18, 6.19, and 6.20, pp. 100–103). Parenthetical rounded percentages reflect summary table reporting in the thesis.

Three profound sociological insights emerge from Table 1. First, the gender distribution is heavily skewed: male patrons constitute 72.14% (n = 202) of library users, whereas female patrons account for only 27.86% (n = 78). This 44.28-percentage-point gender gap mirrors both the 62.5% male vs. 37.5% female split observed in our earlier study of Sugamya Pustakalaya users at C. N. Braille Library (Jadav & Jani, 2023) and broader NSSO 76th Round national trends (MoSPI, 2019). In patriarchal and rural settings, families are frequently reluctant to allow visually impaired daughters to travel independently via public transport to district libraries, underscoring the vital importance of women-focused residential libraries like Pragnyachakshu Mahila Seva Kunj in Veraval and postal home-delivery services.

Second, the age distribution demonstrates that Gujarat's Braille libraries are overwhelmingly youth-driven institutions: 61.07% (n = 171) of patrons belong to the 16–25 age bracket, and another 22.50% (n = 63) are aged 26–35 years—meaning that 83.57% of all active users are young students, university learners, or unemployed youth preparing for public-sector competitive examinations. Third, the educational profile reveals that 41.79% (n = 117) of patrons have formal schooling below the 10th standard, 23.93% (n = 67) have completed 10th–12th standard, 16.79% (n = 47) are graduates, 7.14% (n = 20) are postgraduates, and 10.36% (n = 29) pursue vocational or music diplomas. Because over two-fifths of patrons lack secondary school completion, library digital interfaces and orientation programs cannot assume advanced English proficiency or complex computer literacy.

3. Library Awareness, Commuting Logistics, and Information-Seeking Patterns

3.1 Channels of Awareness and Physical Commuting Modes

Analyzing how Divyangjan patrons discover and physically reach Braille libraries (Table 2) reveals the critical role of institutional disability networks and public transit. While 86.79% (n = 243) of surveyed respondents were formally aware of the full range of Braille library services, 13.21% (n = 37) reported being unaware of specialized offerings despite visiting the campus for rehabilitation or schooling. Among awareness channels, disability organizations and NGOs served as the primary conduit for 37.85% (n = 106) of users, followed by a combination of sources (31.08%, n = 87), personal initiative/interest (25.00%, n = 70), and friends/peers (6.07%, n = 17).

In terms of physical mobility, 40.00% (n = 112) of patrons rely on public transport (state road transport buses, BRTS, and shared auto-rickshaws) to reach the library, 26.07% (n = 73) commute on foot (primarily students residing in on-campus hostels at Ahmedabad, Valsad, Bhuj, and Veraval or nearby neighborhoods), 21.79% (n = 61) use a combination of transport modes, and 12.14% (n = 34) travel via a family or personal vehicle. Visit frequency data indicate that 46.79% (n = 131) visit occasionally (monthly), 32.14% (n = 90) visit once a week, and a highly committed core of 21.07% (n = 59) visit six days a week. Once at the library, patrons engage in extended study sessions: 72.14% (n = 202) spend between 1 and 5 hours per visit, and 22.86% (n = 64) spend more than 6 hours per visit, while only 5.00% (n = 14) have no fixed duration.

Table 2

Library Awareness Channels, Commuting Logistics, Visit Frequency, Session Duration, and Communication Modes (N = 280)

Access & Usage Parameter	Response Category	Frequency (n / 280)	Percentage (%)	Behavioral & Service Implication
Awareness of Library Services	Aware / Not Aware	243 / 37	86.8% / 13.2%	13.2% require targeted service orientation.
Primary Source of Awareness	Disability Organizations / NGOs	106	37.85%	NAB/BPA camps are primary outreach engines.
Primary Source of Awareness	Combination of Channels	87	31.08%	Multi-channel community word-of-mouth.
Primary Source of Awareness	Personal Interest / Friends	70 / 17	25.00% / 6.07%	Self-motivated scholars and peer networks.

Access & Usage Parameter	Response Category	Frequency (n / 280)	Percentage (%)	Behavioral & Service Implication
Mode of Commuting to Library	Public Transport (Bus / BRTS / Auto)	112	40.00%	Requires last-mile tactile transit stops.
Mode of Commuting to Library	Walking (Hostel & Local Residents)	73	26.07%	Benefits from co-located campus hostels.
Mode of Commuting to Library	Combination / Personal Vehicle	61 / 34	21.79% / 12.14%	Dependent on family escort or mixed transit.
Frequency of Library Visits	Occasionally (Monthly)	131	46.79%	Borrowers taking Braille books home for weeks.
Frequency of Library Visits	Weekly (1 Day per Week)	90	32.14%	Regular weekend/weekly academic readers.
Frequency of Library Visits	Daily (6 Days a Week)	59	21.07%	Intensive residential & exam-prep scholars.
Duration of Use per Visit	Between 1 to 5 Hours	202	72.14%	Substantial multi-hour reading/study sessions.
Duration of Use per Visit	More Than 6 Hours / No Fixed	64 / 14	22.86% / 5.00%	Full-day study hall reliance by 22.9% of users.
Primary Mode of Communication	Oral Communication with Staff	200	71.43% (72%)	Heavy dependence on verbal staff interaction.
Primary Mode of Communication	Audible Devices / Sign Boards	68 / 12	24.29% / 4.29%	Limited automated audio or tactile signage.

Note. Synthesized from Section 6.4.2 (Tables 6.21 through 6.26, pp. 104–108).

3.2 The Tactile-Digital Format Paradox: Technology Usage vs. Format Preference

One of the most illuminating empirical discoveries of this study emerges when juxtaposing patrons' general technology adoption against their preferred reading format in the library (Table 3 and Figure 1, Panel A). When asked whether they use technology in their engagement with library services, an overwhelming 87.50% (n = 245; reported as 87%) responded affirmatively, and 83.21% (n = 233; 83%) confirmed that books in digital form were available in their library. Yet when asked to identify their single primary preferred format for accessing information, 52.14% (n = 146) selected embossed tactile Braille books, 29.29% (n = 82) selected audio materials/talking books, and only 18.57% (n = 52) selected digital resources via screen readers.

Why do 87.5% of Divyangjan patrons use technology generally, yet only 18.6% prefer screen-reader digital texts as their primary library format? Cross-tabulating format preferences with library infrastructure (Paper 3) and user barriers (Section 4) explains this paradox: first, because 64.3% of libraries lack screen-reader workstations and 85.7% lack accessible websites, accessing digital texts inside the library is fraught with technical friction. Second, for Gujarati-medium literature, poetry, religious texts, and foundational school textbooks, tactile Braille and human-narrated DAISY talking books offer superior linguistic naturalness compared to robotic synthetic TTS voices. Indeed, when asked which library resources they utilize across all visits (Table 3), 56.07% (n = 157) reported using a multimodal combination of Braille, digital talking books, and video/audio materials, while 36.07% (n = 101) combined general reading, educational study, and literary exploration.

Table 3

Technology Usage, Preferred Reading Formats, Multimodal Resource Utilization, and Information Fulfillment Among Patrons (N = 280)

Information Format & Resource Dimension	Category / Modality	Frequency (n)	Percentage (%)	Analytical Insight
General Technology Usage in Library	Yes (Use Tech) / No	245 / 35	87.5% / 12.5%	High baseline willingness to engage with ICT.
Preferred Format for Info Access	Embossed Braille Books	146	52.14% (52.1%)	Tactile reading remains the foundational core.
Preferred Format for Info Access	Audio Materials (Talking Books)	82	29.29% (29.3%)	Second most preferred; vital for non-Braille users.

Information Format & Resource Dimension	Category / Modality	Frequency (n)	Percentage (%)	Analytical Insight
Preferred Format for Info Access	Digital Resources (Screen Readers)	52	18.57% (18.6%)	Constrained by lack of library PCs & training.
Actual Library Materials Utilized	Combination of All Formats	157	56.07%	Majority are multimodal hybrid information users.
Actual Library Materials Utilized	Braille Language Only	64	22.86%	Dedicated tactile-only readers.
Actual Library Materials Utilized	Digital Talking / Audio Book Only	47	16.79%	Auditory-reliant patrons.
Actual Library Materials Utilized	Video Book (With Audio/Captions)	12	4.28%	Used by low-vision & hearing-impaired patrons.
Primary Purpose of Resource Usage	Combination (Edu + Lit + General)	101	36.07%	Holistic intellectual and academic engagement.
Primary Purpose of Resource Usage	Literature (Fiction, Poetry, Drama)	66	23.57%	Strong cultural appetite for Gujarati literature.
Primary Purpose of Resource Usage	Educational (Coursework & Exams)	62	22.14%	Direct textbook and competitive exam reliance.
Primary Purpose of Resource Usage	General Reading (News & Magazines)	51	18.22%	Civic awareness and daily current affairs.
Information Demand & Fulfillment	Demanded Specific Info (Yes / No)	259 / 21	92.5% / 7.5%	Active, purposeful information-seeking behavior.

Information Format & Resource Dimension	Category / Modality	Frequency (n)	Percentage (%)	Analytical Insight
Information Demand & Fulfillment	Received Required Info (of n=259)	253 / 6	97.7% / 2.3%	High fulfillment for traditional print/audio asks.

Note. Compiled from Tables 6.27, 6.28, 6.33, 6.34, 6.37, and 6.38 (pp. 109–118).

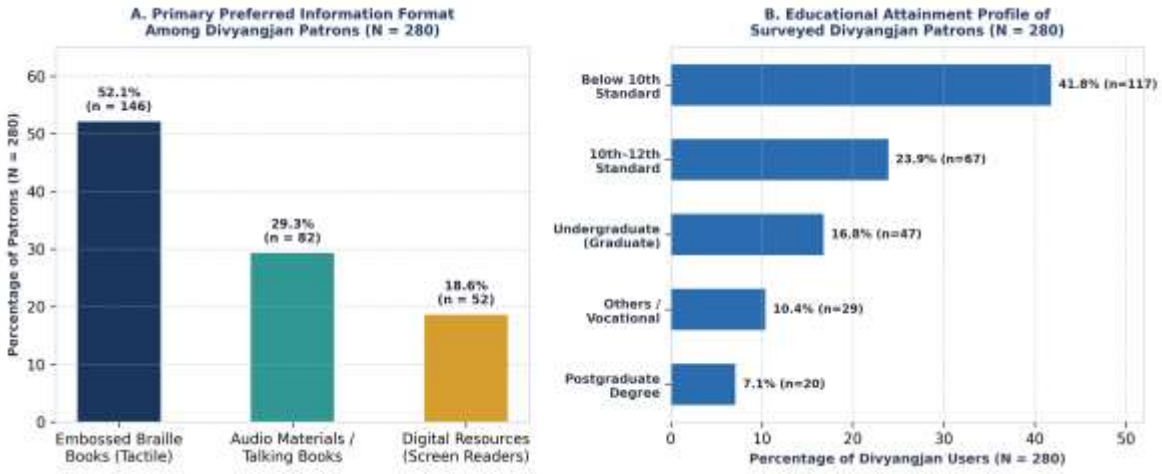


Figure 1. *Primary Preferred Information Format (Panel A) and Educational Attainment Profile (Panel B) Among Divyangjan Patrons (N = 280).* Note: Panel A demonstrates the enduring dominance of embossed Braille (52.1%) and audio materials (29.3%) over screen-reader digital formats (18.6%); Panel B illustrates the high concentration of patrons with pre-matriculation schooling (41.8%).

4. Ergonomic Micro-Accessibility Audit, the Training Paradox, and User Barriers

4.1 Macro-Space Satisfaction vs. Interior Ergonomic Micro-Accessibility

A critical methodological contribution of this patron survey lies in distinguishing between macro-level building space and micro-level interior ergonomic accessibility (Das, 2019; Irvall & Nielsen, 2005). At the macro level, 95.71% (n = 268) of patrons confirmed the availability of adequate physical reading space, and 92.85% (n = 260) confirmed the existence of a separate dedicated section—primarily Reference/Information sections (35.00%, n = 91 of 260), Circulation sections (31.92%, n = 83), Other specialized corners (25.00%, n = 65), and Children's sections (8.08%, n = 21). However, when the 268 patrons with physical space were asked to identify which specific interior ergonomic safety and accessibility features were actually present in their library (Table 4 and Figure 2, Panel A), severe micro-environmental deficits emerged.

Specifically, while 32.09% (n = 86) reported chairs with armrests, 20.15% (n = 54) noted audible/visible fire alarms, 17.91% (n = 48) observed signage with high-contrast pictograms, 14.18% (n = 38) had access to reading and computer tables of varying heights, and 13.06% (n = 35) reported shelves reachable from a wheelchair, only 1.49% (n = 4) confirmed unobstructed aisles between bookcases and a mere 1.12% (n = 3) reported a formal emergency staff-assistance protocol. Because embossed Braille volumes are oversized and bulky, cramming extra shelving racks into 500–1,500 sq.ft. reading rooms frequently narrows aisles below the 36-inch ADA/IFLA clearance minimum, creating hazardous physical obstacles for blind and wheelchair-using patrons.

4.2 The User Orientation Paradox and Acute Barriers to Library Access

Evaluating patron training and support (Table 4 and Figure 2, Panel B) uncovers what we term the 'User Orientation Paradox'. While 93.93% (n = 263) of patrons confirmed receiving general human assistance—delivered either by the head librarian (52.09%, n = 137) or a combination of library staff (47.91%, n = 126)—this assistance is predominantly reactive and ad-hoc: 44.29% (n = 124) rated staff as only 'sometimes helpful' and 17.14% (n = 48) rated staff as 'rarely or never helpful', compared to 38.57% (n = 108) rating them 'always helpful'. Most strikingly, 67.14% (n = 188) of surveyed Divyangjan users had never received any formal library orientation or training, and consequently 58.93% (n = 165) expressed an urgent need for regular user training and orientation programs.

This training vacuum directly explains the barriers experienced by patrons. Overall, 26.79% (n = 75) of respondents reported facing active barriers in accessing library resources, and 20.00% (n = 56) were only somewhat satisfied (14.29%) or dissatisfied (5.71%) with library services. When all 280 patrons were queried on the four specific structural challenges impeding their access (Table 4), the top-ranked barrier was 'Lack of Trained Staff' (29.29%, n = 82), followed closely by 'Inaccessible Digital Tools' (26.43%, n = 74), 'Limited Braille/Audio Content' (23.57%, n = 66), and 'Inadequate Infrastructure' (20.71%, n = 58).

Table 4

Interior Micro-Accessibility Audit, Patron Orientation Gap, Staff Helpfulness, Satisfaction, and Major Barriers (N = 280)

Ergonomic, Training & Barrier Dimension	Specific Indicator / Category	Affirmative Count (n)	Percentage (%)	Diagnostic Assessment
Interior Micro-Accessibility (n=268)	Chairs with Arm Rests	86	32.09%	Most common ergonomic seating feature.

Ergonomic, Training & Barrier Dimension	Specific Indicator / Category	Affirmative Count (n)	Percentage (%)	Diagnostic Assessment
Interior Micro-Accessibility (n=268)	Invincible / Audible Fire Alarms	54	20.15%	80% of responses lack audible emergency alarms.
Interior Micro-Accessibility (n=268)	Signage with Pictograms	48	17.91%	Limited wayfinding support for low-vision/deaf.
Interior Micro-Accessibility (n=268)	Reading & Computer Tables of Varying Heights	38	14.18%	Corroborates librarian report of 28.6% furniture.
Interior Micro-Accessibility (n=268)	Shelves Reachable from a Wheelchair	35	13.06%	High stacks obstruct independent browsing.
Interior Micro-Accessibility (n=268)	Unobstructed Aisles Between Bookcases	4	1.49%	Severe crowding of embossed Braille stacks.
Interior Micro-Accessibility (n=268)	Staff Assists in Case of Emergency	3	1.12%	Lack of formal emergency evacuation drills.
Orientation & Staff Support (N=280)	Received Formal Library Orientation/Training	92 (Yes) / 188 (No)	32.9% / 67.1%	Two-thirds of users never formally oriented.
Orientation & Staff Support (N=280)	Need Regular User Training & Orientation	165 (Yes) / 115 (No)	58.9% / 41.1%	Statistically significant demand ($p < .001$).
Orientation & Staff Support (N=280)	Staff Helpfulness: Always / Sometimes / Rarely	108 / 124 / 48	38.6% / 44.3% / 17.1%	61.4% experience inconsistent or rare help.

Ergonomic, Training & Barrier Dimension	Specific Indicator / Category	Affirmative Count (n)	Percentage (%)	Diagnostic Assessment
Satisfaction & Digital Availability	Overall Satisfied / Somewhat / Not Satisfied	224 / 40 / 16	80.0% / 14.3% / 5.7%	20.0% experience partial or full dissatisfaction.
Satisfaction & Digital Availability	Desired Resources: Easily / Sometimes / Rarely	238 / 30 / 12	85.0% / 10.7% / 4.3%	15.0% face delays in specialized texts.
Specific Challenges Faced (N=280)	1. Lack of Trained Library Staff	82 (Yes) / 198 (No)	29.3% / 70.7%	Primary barrier cited by nearly 3 in 10 users.
Specific Challenges Faced (N=280)	2. Inaccessible Digital Tools & Interfaces	74 (Yes) / 206 (No)	26.4% / 73.6%	Prevents transition from Braille to digital.
Specific Challenges Faced (N=280)	3. Limited Braille and Audio Content	66 (Yes) / 214 (No)	23.6% / 76.4%	Acute in rural hubs and STEM/exam subjects.
Specific Challenges Faced (N=280)	4. Inadequate Physical Infrastructure	58 (Yes) / 222 (No)	20.7% / 79.3%	Cramped aisles, shelving, and washrooms.

Note. Compiled from Tables 6.30, 6.41, 6.42, 6.43, 6.45, 6.46, 6.48, and 6.49 (pp. 111–127).

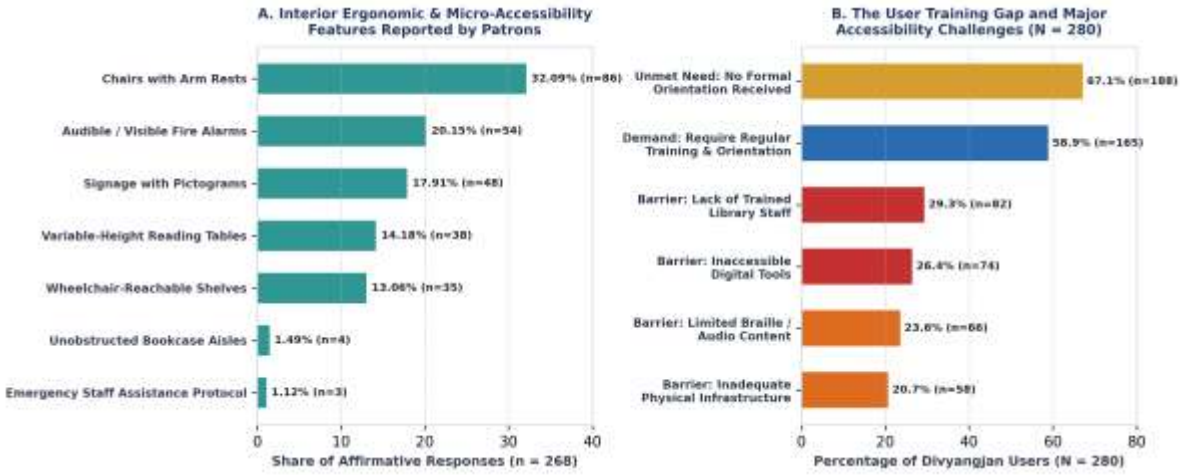


Figure 2. *Interior Ergonomic Micro-Accessibility Features (Panel A) and the User Training Gap vs. Specific Barriers Faced (Panel B) (N = 280).* Note: Panel A highlights the scarcity of unobstructed bookcase aisles (1.49%) and wheelchair-reachable shelves (13.06%); Panel B illustrates how the 67.1% orientation deficit drives user demand for training (58.9%) and compounds barriers from untrained staff (29.3%) and inaccessible digital tools (26.4%).

5. User-Centered Recommendations and Conclusion

5.1 Five-Pillar Patron Empowerment Strategy

Translating the empirical voices of 280 Divyangjan patrons into institutional practice requires five targeted interventions:

- **1. Mandatory Onboarding Orientation & Monthly Digital Literacy Bootcamps:** To close the 67.1% orientation gap, every Braille library must institute a standardized 3-hour onboarding orientation for new members (available in tactile Braille and DAISY audio), coupled with monthly hands-on workshops teaching keyboard shortcuts for NVDA/SAFA screen readers, smartphone TalkBack navigation, and Sugamya Pustakalaya downloading.
- **2. Gender-Inclusive 'Books-on-Wheels' and Postal Free-Matter Outreach:** To bridge the 72% male vs. 28% female user disparity, the 57.1% of libraries that currently lack home-delivery services should utilize Indian Post's 'Blind Literature Packet' free-postage exemption and mobile van camps to deliver embossed Braille and DAISY SD-cards directly to homebound female Divyangjan.
- **3. Interior Ergonomic De-Congestion and Tactile Wayfinding:** Libraries must audit their reading rooms against IFLA Checklist No. 89 (Irvall & Nielsen, 2005), widening inter-stack aisles to at least 36–42 inches, lowering top shelves to wheelchair reach (max 48 inches), installing tactile floor guide-tiles, and mounting combined audible/strobe emergency fire alarms.
- **4. Expanding Children's Tactile Sections and Competitive Exam Banks:** Given that Children's sections represent only 8.08% of dedicated spaces while youth aged 16–25 represent 61.07% of patrons, collections must be enriched at both ends: tactile picture/story

books for early Braille literacy below age 16, and updated GPSC/UPSC/banking competitive examination guides in DAISY and BRF formats for young adults.

- **5. Peer-to-Peer Patron Mentoring Circles:** Leveraging the 24.0% of patrons who hold graduate or postgraduate degrees to mentor the 41.8% with pre-matriculation schooling through weekly reading clubs and peer assistive-technology circles will multiply instructional capacity without straining thin library budgets.

5.2 Conclusion

This multi-center empirical investigation of 280 Divyangjan patrons across 14 Braille libraries in Gujarat demonstrates that print-disabled users are highly motivated, multimodal information seekers—92.5% actively demand specific information, 72.1% study for 1 to 5 hours per visit, and 56.1% synthesize tactile Braille, talking books, and digital media. At the same time, their autonomy is constrained by a 44-percentage-point gender gap, cramped interior book stacks, a 67.1% lack of formal orientation, and barriers stemming from untrained staff (29.3%) and inaccessible digital tools (26.4%). By honoring patrons' enduring reliance on tactile Braille (52.1%) while systematically training both staff and users in accessible digital tools, Braille libraries can evolve into truly empowering spaces of lifelong learning.

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