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From Policy to Practice: A Narrative Review of Store Name Representation in Braille Across Nations

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ABSTRACT
In the retail sector, accessibility for visually impaired individuals remains a global challenge across the world. To promote independence among disabled persons, the promotion of store names in Braille was considered essential, but a significant gap was caused due to practical implementation and the policy framework. The technological innovations and user experiences were explored in a narrative review that aims to synthesize existing literature on Braille implementation for store names across different countries, enablers, and identify barriers. The 17 studies published between 2020 to 2025 were reviewed. The bibliographic details, study design, country context, policy focus, implementation practices, technological innovations, and user-centred outcomes were captured by using a structured data extraction process. Policy frameworks, implementation practices, technological innovations, and user experiences are the four major themes explored in the thematic analysis of the study. The results of the study predict that Braille accessibility was supported by international and national legislation, but practical adoption varies significantly across regions. The disabled person was enhanced by the use of technological solutions, such as Braille-to-speech applications, refreshable tactile displays, and IoT-enabled devices, but this causes inconsistent implementation. The integration of legislation, technology, stakeholder engagement, and continuous evaluation helps to bridge the gap between practice and policy. The review provides insights for designers, policymakers, and researchers to enhance Braille accessibility in retail environments and promote inclusivity for visually impaired individuals..
Keywords: Braille, visually impaired, policy implementation, accessibility, retail, assistive technology, narrative review

INTRODUCTION:

The visually impaired people were able to read and access information with the help of Braille. The person with disabilities was given the independence in moving, reading, and taking part in everyday social activities was achieved with the help of Braille created in the 19th century. Even though the using of Braille was considered an accessibility tool for visually impaired individuals around the world, the implementation of Braille differs from one country to another, with varying levels of effectiveness (Dolphin et al., 2024). To enhance the life of a person with disabilities, different types of international polices, such as the United Nation Convention on the Rights of Persons with Disabilities (UNCRPD), were available, but the real implementation of polices in shops, public places, and the buying of everyday products created a lack due to governments, institutions, and industries implementing these frameworks inconsistently across practical environments.

The implementation of refreshable tactile display and three-dimensional printed icons using assistive technologies enhanced the non-visual information delivery to mid-air haptics for Braille representation predicted by many studies (Paneva et al., 2020; Holloway et al., 2023; Holloway et al., 2024). The inclusivity and independence of visually impaired individuals were enhanced by traditional Braille signage, like labeling store names and public information. The visually impaired individual in urban areas was impacted by shops failing to provide Braille signage or being installed with poor quality prevents access to goods and services and affects the sense of social belonging among visually impaired individuals. The narrative review, therefore, focuses on the representation of store names in Braille as a key dimension of accessibility and inclusivity for visually impaired individuals.

Both achievements and persistent weaknesses in inclusive design occurred in the enhancement of public infrastructure, which was predicated on research. The person with visual impairment in Indonesia reveals that signage is not able to provide adequate support, creating a gap in accessibility design (Henry & Rizaldi, 2020). Moreover, in India, researchers found that most malls did not adopt the implementation of Braille signage and were not able to follow the rules of universal design to make spaces accessible for everyone (Chakraborty et al., 2024). The effective practice of implementing Braille signage failed due to a lack of focus on institutions and

policymakers making store name boards written in Braille, hospitals with Braille usage below the number, public information, and elevator buttons with Braille markings. The real-world environment frequently neglects the provision of consistent and adequate Braille-based details, although many of the frameworks exist to ensure equal participation for visually impaired individuals. The ignorance of policymakers and institutions impacted the mobility and independence of the visually impaired individuals.

In the Middle East and Gulf region, regarding labelling and signage for visually impaired individuals, governments have established many polices and frameworks for enhancement. Managing the medical prescriptions independently by visually impaired individuals was supported with medications, including Braille labels, in the Gulf region. The inclusion, autonomy, and safety of the visually impaired individuals were enhanced with the implementation of various polices and frameworks implemented by the Government. In daily practice, even though the Government has implemented more polices to support individuals with disabilities, still more challenges exist due to the inconsistency of pharmacies in providing Braille-labelled medications, and existing labels are difficult to read. Moreover, the effectiveness of government policies was impacted by the lack of training of healthcare staff in managing the visually impaired patients. Supporting independent medication management for disabled individuals needs to be on addressing the gap between policy and practice, highlighting the need for stricter implementation by adoption of best staff training integrated with increased awareness (Almukainzi et al., 2020; Fayyad et al., 2025). The proper enforcement guidelines need to be followed in the implementation of the government policy statement related to persons with disability. The irresponsibility of service providers often fails to implement Braille labelling without adopting national regulations, causing visually impaired people to depend on others. To protect disability rights, the Government of Oman has established a strong legal framework to preserve disability rights. To make the policies implemented by the Government truly effective for visually impaired and disabled persons, needs to focus more on active implementation, monitoring, and accountability (Mkadmi & Hamad, 2025). In Qatar, visually impaired students were enhanced with the implementation of assistive technologies helps enhance the social and educational experiences of visually impaired individuals. Moreover, the inclusion of Braille signage helps to provide recognition for visually impaired persons, enabling them to navigate and participate in day-to-day work independently (Jarbi, 2024).

The inclusion of technological development shaped the landscape of accessibility for disabled people. The product name, price, and store navigation cues were communicated to a disabled person with the use of an Internet of Things (IoT) enabled smart trolley integrated with audio feedback (Masadeh et al., 2024). The self-study and literacy opportunities of visually impaired individuals were enhanced with the help of Braille-to-speech applications (Ardiansah & Okazaki, 2021). The information accessibility and barrier-free infrastructure were considered mandatory for disabled persons in East Asia, South Korea, and Japan by the implementation of the UNCRPD (Arrington, 2021). The real improvement for people with disabilities in accessibility was impacted by institutional structure and professionals' dominate, creating a recurring gap between the implementation of policy by the Government and practice (Guldvik & Askheim, 2022). The disabled person residing in Toronto faces difficulties in accessing transportation facilities, socioeconomic equality, and food access (Schwartz et al., 2023). The usage of mobile payments by visually impaired individuals in India faces many challenges and becomes crucial in post post-pandemic digital economy. The individual adoption of technologies was impacted by various factors such as ease of access, trust, and usability (Parvathy & Durairaj, 2022). Various barriers associated with the implementation of policies for disabled persons, such as social, economic, and cultural needs to be addressed by stakeholders. Due to a lack of expertise among developers and awareness often overlooks cognitive disabilities. The significant gap in digital inclusion was created by failing to give proper attention by developers and institutions (Pichiliani & Pizzolato, 2021).

The implementation of policy by the Government does not help to address the challenges faced by the disabled person, considered a major highlight predicted by the study. The challenges faced by disabled people in accessing shopping, navigating public spaces, and accessing essential information continue even after the implementation of technological innovations and legal reforms. The implementation of government policies remains symbolic without strong enforcement, proper implementation, and adoption of user-centered approaches. The consideration of practical measures instead of focusing more on technological advances and legal help directly to improve the live of visually impaired communities (Sulaiman, 2024). The enablement of Store name representation in Braille was assured by turning policy into real-time implementation helps visually impaired people to live their lives independently (Sati et al., 2025). Different countries adopted various approaches and policies for the enhancement of visually impaired individuals. A narrative review examined Braille representation in store signage, includes cultural, technological, and identifying best practices integrated with policy context helps to shape implementation. The existence of a gap between reality and theoretical policies by governments of different countries was addressed by focusing on the representation of store names in Braille based on an international perspective.

The visually impaired individuals were able to read and write independently through the adoption of Braille practice. The independent navigation for disabled persons in public stores, hospitals, transport hubs, and educational institutions needs to include the presence of Braille (Lupetina, 2022). The establishment of commercial knowledge for disabled persons was enabled with the help of store name representation in Braille (Panda & Chakravarty, 2022).

The necessity of accessible environments for persons with disabilities was assured with the implementation of multiple legal and policy frameworks (Ok et al., 2024). The implementation of defining accessibility standards in digital and physical environments was made possible by the adoption of Complementary regional frameworks, such as the Americans with Disabilities Act (ADA) in the United States and the European Accessibility Act (Werren & Charlton, 2022). In developed countries, the implementation of Braille was integrated with public infrastructure (Chidiac et al., 2024).

More focus needs to be given to predicting the actual state of store name representation in Braille across different nations. The concept of physical signage in commercial environments was focused less on compared with the implementation of digital accessibility, assistive technologies, and general disability rights (Arias-Flores et al., 2024; Soltani et al., 2025). To identify the global pattern and to address the gap, the narrative review focuses on the identification of policy documents, integration of diverse case studies, and the persistent gap. The following was the list of objectives of this study:

To examine international and national policy frameworks that govern Braille representation of store names and their intended accessibility outcomes. To analyse the gaps and challenges between policy commitments and the real-world implementation of Braille store signage across nations. To identify and highlight best practices, innovative approaches, and successful models that strengthen inclusive accessibility through Braille representation worldwide. The wider discussion on disability rights and inclusion in Braille was explored by using a narrative review. The existence of a gap was addressed with the help of technology and opportunities. This study gives clear insights for policymakers and practitioners to build inclusive spaces.

Methodology

Review Design

The evidence across diverse disciplines and implementation design was synthesized by the adoption of a narrative review design used in the study. The adoption of narrative review examined the integration of literature from different methodological backgrounds and conceptual frameworks. The comprehensive understanding of policies on Braille representation of store names in practice across various nations was explored in the review. The studies published between 2020 to 2025 were considered for the review draws on 17 peer-reviewed references. To identify the knowledge gap and to map a global pattern narrative approach was selected for the study.

Search Strategy

By using IEEE Xplore, PubMed, Web of Science, Scopus, and Google Scholar literature search was carried out across multiple academic databases. The broad spectrum of disciplines associated with the studies, such as policy research, social science, human-computer interaction, accessibility engineering, and disability studies, was focused on in the narrative review. To ensure comprehensive retrieval of relevant studies, the following set of Boolean operators and keywords was considered for the review.

"Braille signage" AND "store names" AND "policy"

"Braille accessibility" AND "implementation" AND "retail environments"

"assistive technology" OR "visual impairment" AND "Braille representation"

"disability inclusion" AND "Braille" AND "international perspective"

The ongoing digital inclusion initiatives and post-pandemic transformations in accessibility practices, information capture for the narrative review was assured by the articles published between 2020 to 2025. By identifying the bibliographies of relevant articles and by using citation chaining, additional sources were identified. The inclusion, exclusion, and final inclusion of studies in the narrative review were finalized by using a flow diagram in Figure 1.

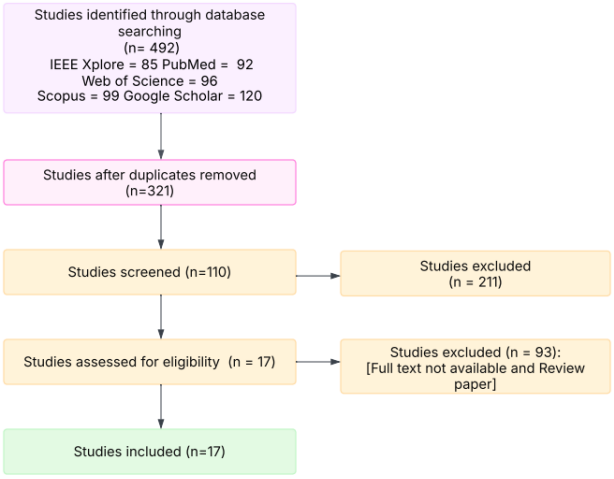

Figure 1: Flowchart of the narrative review process (Source: The Author)

A total of 492 studies were identified for the process of narrative review. 321 unique studies remained after the removal of duplicates. Based on screening the title and abstract, 110 articles were identified for the processing of the next stage. Based on not meeting the inclusion criteria, 211 studies were excluded. For full-text assessment, 17 articles were finally selected after rigorous screening and an eligibility process.

Inclusion and Exclusion Criteria

The following was the list of inclusion criteria considered for the selection of studies.

Inclusion criteria:

1) The articles published between the years 2020 to 2025 were considered for the study.

2) Studies related to accessibility policies related to the visually impaired, Braille signage, and store name representation.

3) Research focusing on technological innovations relevant to Braille signage

4) Articles written only in the English language were considered

Exclusion criteria:

1) Studies published before 2020.

2) The unpublished thesis is not considered unless it has been cited in peer-reviewed articles.

3) The study lacks focus on Braille or store accessibility.

4) To ensure the review remains focused, articles not aligned with research objectives were excluded.

Data Extraction

Based on 17 extracted studies, a structured data extraction process was followed to process the information efficiently. The finalized article was reviewed in detail. The relevant information, such as author, year, country, focus on policy, and presence or absence of national or international accessibility legislation, was coded under key categories. Each of the studies reviewed was summarized based on considering various factors such as technological innovations, gaps, challenges, and success stories. Moreover, additional data associated with the study focusing on the relevance for future research and policy was gathered. In a matrix table, all extracted data was organized helps in predicting the thematic comparison across studies. The adoption assured the integration of findings into a coherent narrative of a structured approach used for the extraction of data supports the integration of both interpretive insights and descriptive data.

Quality Assurance

Several quality assurance measures were employed to enhance the reliability of the findings. The transparent protocol was adopted for the search and screening process of the article helps to ensure the studies were considered based on relevance. The Critical Appraisal Skills Programme (CASP) and the Mixed Methods Appraisal Tool (MMAT) were used to evaluate the articles using adapted criteria. The clarity of findings and validity of the conclusions of the review were assured based on the adoption of various tools used in the study. The geographical diversity of the study was enhanced by based inclusion of literature from multiple regions. The transferability and generalizability of the study was by covering a variety of policy framework and implementation experiences helps to strengthen the process of review. The peer review publication alone was considered to maintain academic integrity.

Results

The multifaceted landscape of accessibility and inclusion of the review was organized using four themes. The national and international mandates promoting equitable access were highlighted in Policy frameworks and legislative commitments. The policies translate into action, and the obstacles encountered were explored in the implementation practices and real-world challenges. Technological innovations and assistive solutions examined the role of emerging tools in enhancing participation. The perspectives of individuals navigating these systems were captured in the user experience participation and inclusive practices section.

Policy Frameworks and Legislative Commitments

The core of the work to promote Braille accessibility in different parts of the world was explored through policies and legislative frameworks. Throughout the studies reviewed, it can be observed that a similar tendency exists, such as governments tend to align with the principles of the UNCPRD, which advocates accessibility as one of its basic rights. For instance, a study by Arrington (2021) discussed the fact that South Korea and Japan have introduced powerful anti-discrimination legislation, become members of the UNCRPD, and introduced national accessibility. These legislative changes suggest the replacement of the vision of disability as a purely medical issue with the discourse of disability as a rights and social inclusion issue. Another Norwegian study by Guldvik and Askheim (2022) followed the historical development of user participation within national disability policy since the mid-1960s in providing a Nordic welfare model, which has put a strong emphasis on democratic inclusion.

In spite of these developments, the review identified differences in the explicit coverage in the policies of the Braille signage in retail and commercial settings. Whereas most nations have embraced a wide scope of disability accessibility policies, a smaller number incorporate specific requirements of the use of Braille in the naming of stores and other signs in the community. The existence of this gap indicates that the intent of legislation usually fails to be permitted through to the demands of practical needs in everyday life. To support this argument, Pichiliani and Pizzolato (2021) find the general argument that the standards of accessibility are not always implemented in practice due to the organizational factors and the lack of knowledge among implementers, despite the study aimed at cognitive disabilities.

The other important insight that this review identified is the inequitable implementation of accessibility policies. Although frameworks are found in different countries like Norway, South Korea, and Japan, the level of adherence is usually based on the local surveillance and cultural focus on inclusion. Conversely, weaker enforcement mechanisms may also result in situations in which legislation is more of a symbolic obligation rather than an enforceable norm. All these findings together highlight that policy frameworks are both required and inadequate without further clarification on enforcement, monitoring, and without certain requirements on Braille signage of stores. The review thus establishes that there is an urgent need to ensure governments across the world move beyond the generalized accessibility regulations to tangible and enforceable rules that require the use of Braille in the public and retail settings.

Implementation Practices and Real-World Challenges

The existence of a gap between real life and accessibility of polices was predicated by the researcher. Even though the Government and institutions provided more accessibility options for visually impaired individuals, challenges still exist in public places and shops. The commitments given by governments, business people, and

stakeholders need to be converted into suitable real-world practices to help visually impaired individuals manage the challenges effectively in daily life. Due to the existence of both social and physical barriers, disabled adults in Toronto face many challenges in accessing food (Schwartz et al., 2023). Due to the existence of a poor transportation system in many countries, people with disabilities were not able to reach stores easily. Moreover, in crowded places, the usage of wheelchairs chairs considered to cause difficulty.

Additionally, the layout of most of the store was hard for the disabled person to navigate, and shelves were arranged in ways that block mobility. Without the use of clear formats like Braille, a visually impaired individual faces challenges due to signs and labels that lack clear formats, making it difficult to identify the product. The day-to-day life of disabled individuals faces many barriers due to the lack of implementation of Braille, which prevents them from fully taking part in everyday life. Instead of focusing on the law, researchers insist on focusing more on creating fair access for disabled people efficiently.

The visually impaired individual needs to be supported by an assistive shopping trolley integrated with IoT technologies, audio feedback, and sensors (Masadeh et al., 2024). Instead of focusing completely on the implementation of policies and frameworks, technologies, and researchers need to focus on innovating specialised tools with the integration of advanced technologies for the enhancement of visually impaired individuals. The shortcomings in the implementation of policy enforcement for disabled persons were managed effectively with the implementation of technology. The implementation of Braille signage was considered as an extra cost burden for small and medium-sized businesses instead of a legal and ethical responsibility. Most of the employees and store owners lacked awareness of the implementation of Braille for visually impaired customers and the adoption of accessibility rules. In real settings, even trained professionals with strong technical knowledge face challenges in applying the accessibility standards for disabled persons. The real accessibility for visually impaired individuals in commercial spaces was enhanced by focusing on creating stronger awareness among businesspeople, providing proper training to treat disabled people with effective encouragement, and monitoring policies (Pichiliani & Pizzolato, 2021). The significant improvement in instructional skills and knowledge was highlighted by the effectiveness of Braille training programs for teachers in Jordan highlights capacity-building initiatives to enhance inclusive education and support students with visual impairments (AlTarawneh & Majali, 2021)

The economic priorities, enforcement structures, and social attitudes play a major role in the implementation of facilities for the enhancement of disabled individuals, as predicated by the findings of the study. The successful adoption of Braille signage in large retail chains and public transport occurred in a few developed countries. On the other hand, rural areas and small business holders lack in the adoption of Braille signage. The type of store and the geographical location of the store result in providing accessibility for disabled individuals. The theme of the review explores the implementation of Braille signs in shops, not just focused on meeting the rules. Instead, it needs to focus that the Braille sign needs to be used in all places to help blind customers manage the challenges in everyday life efficiently.

Technological Innovations and Assistive Solutions

The implementation of technological innovations was considered the third major key point in the studies, making access easier for people with disabilities. The implementation of digital tools and different assistive technologies helps in the enhancement of disabled people, as predicated by studies. The disabled person was guided by a shopping cart with sensors integrated with audio facilities customer with the details of the product and location. The lack of Braille sign implementation was managed with the inclusion of advanced tools that help to reduce the challenges caused to disabled persons (Masadeh et al., 2024). The written Braille was converted into spoken words by the introduction of a Braille-to-speech application helps visually impaired individuals to read and write in their own language and manage challenges efficiently in everyday life. The disabled person was able to study individually without the help of others and engage with Braille text in an accessible way. The same idea was extended for practical daily usage and encourages the habit of learning for the disabled person. Moreover, a Braille sign was scanned in a retail environment by using wearable devices or a mobile phone helps a disabled person instantly provide audio feedback. Visually impaired shoppers easily accessed the information about the product in a retail store and directions with the help of wearable devices or a mobile phone.

Compared with Braille signs, the implementation of advanced technological tools reflects retailers and designers supporting a wider shift in accessibility practice. The traditional method of implementation was enhanced with the integration of innovation, providing flexible and inclusive solutions for visually impaired individuals. In both education and shopping, the integration of speech technology with Braille and digital systems helps to provide convenient, independence, and equal participation for visually impaired individuals (Ardiansah & Okazaki, 2021). The mobile payment system was adopted by visually impaired users in Tamilnadu helps in improving the accessibility of visually impaired users in retail spaces. The advanced tools designed with accessibility features support visually impaired individuals to participate in the digital culture. The disabled person was able to make payments independently without the help of others by using an interface with voice guidance, screen readers, and simplified navigation. The disabled users were empowered with the implementation of technology, but not help to address the gap in the study. The lack of implementation of polices by the Government was prevented with the use of advanced technology. The active, inclusive design demanded by the visually impaired individuals was satisfied with the help of advanced technology (Paravathy & Durairaj, 2022).

The long-term impact and fairness of the growing use of technology in accessibility need to be focused on.

Moreover, in reality not assured that all disabled person owns smartphones and use assistive technologies. Few of the disabled people were able to afford and connect with technologies, but the remaining individuals still need to be concerned. The implementation of technology provides a privilege to disabled people, but fails in delivering universal solutions for all visually disabled individuals across the world. Policy makers and business people prevented the implementation of Braille signage in retail and public spaces due to the use of advanced technologies. In the consideration of physical accessibility measures, the implementation of technology is lacking, but it provides valuable support and innovation. The non-negotiable foundation for addressing the challenges for visually disabled persons was efficiently met with the implementation of Braille signage needs to be integrated with digital tools to help provide accessibility in both a sustainable and inclusive way.

User Experiences, Participation, and Inclusive Practices

Both the shortcoming and possibilities of accessibility measures was explored with the help of live experiences with disabled persons were examined by the final themes of the study. The implementation of policies by the Government for the enhancement of disabled individuals was explored in many studies. The key principle of democracy in Norwegian disability policies includes policymakers often framing the participation of users. The policies and services in Norway were shaped by political discussion, emphasizing the importance of including people with disabilities. The democratic values of the country were enhanced with the implementation of an approach that helps users to have a significant voice in the process of making decisions.

On the other hand, the existence of a gap between actual practice and policy promises was noted. The decision-making opportunities for the disabled person in service design and policy were limited. Most of the control in reality was held by administrators, professionals, and business individuals. The study insists on focusing more on identifying the existence of differences between genuine empowerment in disability policy and symbolic inclusion (Guldvik & Askheim, 2022). In accessing food, the disabled person in Toronto faced several difficulties and barriers. Moreover, the transportation system limits the mobility of disabled individuals, added with store layout was considered difficult for navigation for disabled persons. The use of Braille signs alone does not facilitate the accessibility of disabled individuals; instead, focus needs to be given on the whole environment, such as transportation and design of the store helps to manage barriers for disabled individuals efficiently (Schwartz et al., 2023). Moreover, web developers do not focus on people with cognitive disabilities while designing the website.

Additionally, the implementation of Braille signs was not taken care of and maintained by the owners of the shop, making accessibility inconsistent for people impacted by disability. The efficient accessibility for disabled persons depends not on the implementation of ramps or signs instead needs to focus on creating awareness among the people, training the people, and need to support from a proper system. The individuals paying respect to disabled persons were able to provide good infrastructure integrated with committed people, making the stores truly accessible for disabled persons (Pichiliani & Pizzolato, 2021). The visually impaired people in Tamil Nadu using the mobile payment system help to predict that accessibility works best based on considering the needs of the user instead of being forced to use it through top-down rules (Paravathy & Durairaj, 2022). The visually impaired individual was able to learn and read easily with the use of the Braille-to-speech application changes Braille text into spoken words.

Additionally, the application was improved further by collecting feedback from the user. The consideration of the user in the design process of an application helps in the enhancement of the application. The final successful implementation of the product depends on getting ideas from the individuals who are using the application. The real-life needs of the accessibility tools were assured with the help of participatory design (Ardiansah & Okazaki, 2021).

The involvement of the people needs to be considered as the priority instead of focusing on the policies and practices to meet legal standards, as predicted by the studies. The real needs of visually impaired individuals were identified by involving them in accessibility measures helps to shape the solution to match the real needs of the individual. The feedback collected from visually impaired individuals on the implementation of any system was considered mandatory and highlighted by the theme of the study. The inclusion of individuals in monitoring and enforcement helps to make Braille signage policies more effective.

Discussion

By focusing on the intersection of technological innovations, user experiences, and implementation practices narrative review explored the global landscape of store name representation in Braille. The discussion highlights progress, persistent gaps, and opportunities by synthesizing evidence from 17 studies published between 2020 to 2025. Many countries' focus on commitments to concrete national policies on Braille signage varies widely, as demonstrated by the review of endorsed international conventions such as the UN CRPD. Braille requirements into accessibility legislation were implemented in various countries such as the UK, parts of Europe, and the United States. The implementation of policy does not guarantee the implementation of accessibility. The inconsistent access to Braille store names occurred in several regions of the country due to inadequate monitoring of legislation. The following narrative Table 1 provides the structured synthesis of 17 selected studies capturing various critical information. The adoption of a narrative review approach provided a comprehensive comparison of global practices and insights. Based on the consideration of different key parameters, the information in the table was organized. The narrative review table captures four major themes identified in the review aligned with the main thematic contributions of the study. The area of divergence and

convergence was assured by mapping each study to the themes.

Table 1: Narrative Review and Comparative Analysis of Studies on Braille Implementation Across Countries

Study Title	Author(s), Year	Country/Region	Policy Frameworks	Implementation Practices	Technological Innovations	User Experiences	Study Design
Information Accessibility in the Form of Braille	Dolphin et al., 2024	USA	After the UNCRPD ratification, the Government introduced a strong legislative framework.	The accessibility for visually impaired individuals was made mandatory in public spaces and transport.	The use of digital assistive tools was encouraged by the authorities	Disabled communities acknowledged the progress, but retail lacks in the implementation of Braille	Policy analysis
HaptiRead: Reading Braille as Mid-Air Haptic Information	Paneva et al., 2020	Eurpoe	To support disability rights and participation, governments have a long history of creating polices for disabilities.	The accessibility for disabled persons was delayed due to the delay of the authorities.	The digital innovation was made possible by the use of policy documents	The user valued the welfare model, but needs to focus more on the influence on the actual store-level success	Policy review
Refreshable Tactile Displays for Accessible Data Visualisation	Holloway et al., 2024	UK	The accessibility was recognized by National law but lacks in the implementation of cognitive inclusion.	The adoption of standard guidelines is lacking in web development and the retail industries.	For cognitive support, a few digital solutions were developed by developers.	I4n ac5cessibility practices clear gap exists between users' needs and developers	Qualitative
TactIcons: Designing 3D Printed Map Icons for People who are Blind or have Low Vision	Holloway et al., 2023	UK	The implementation of national disability policies prompted the equal access to essential services polices	Various factors, such as the transportation system, retail design, and layout of the store, caused the obstacles in accessibility.	The minimal level of technological integration occurred in real real-time environment.	Day to day, in food shaping, disabled person facing struggles was reported in integration with accessibility of stores and navigation.	Mixed-methods

Signage Design for People with Visual Impairment at Commuter Train Station	Henry & Rizaldi, 2020	Indonesia	The implementation of international agreements like CPRD supported disability rights.	The assistive devices were not implemented in all stores and malls	Designers introduced audio features, sensors, and an IoT-based shopping cart with RFID	Visually impaired users reported greater autonomy	Experimental
Quantitative Interpretation of Universal Design Features in Shopping Malls: A Case Study in Kolkata, India	Chakraborty et al., 2024	India	Policymakers and designers emphasized the universal design in public places.	The researcher evaluated malls in the locality.	Analysts applied quantitative metrics to signage, tactile pathways, and assistive infrastructure.	The existence of a gap was identified between lived experience and design standards.	Quantitative, case study
Regulatory Compliance and Best Practice in Archival Accessibility for People with Disabilities in Oman	Mkadmi & Hamad, 2025	Oman	The labelling requirements were enforced based on the adoption of pharmaceutical polices helps to promote the safety of the patient.	Regulators provided limited enforcement of Braille on drug packaging	Braille labelling was considered a low-cost innovation by experts	Managing the medication without Braille causes difficulties with visually impaired users	Policy based
Medication Use Patterns in the Visually Impaired in Saudi Arabia and the Importance of Applying Braille Labeling	Almukainzi et al., 2020	Saudi Arabia	The accessible signage for public institutions requires approval from national law.	The requirement for disabled persons was implemented inconsistently in retail settings.	The tactile signage was integrated with digital payment	Based on the type of store, users face uneven accessibility	Cross-sectional
Medication Management by Visually Impaired Persons in the UAE: Self-Determination Practice	Fayyad et al., 2025	UAE	Health laws acknowledged the disability rights	Visually impaired persons reported the management practices	The user preferred informal support to use assistive tools	Users highlighted struggles with independence and strongly demanded	Qualitative interviews

and Law Demands						Braille labeling	
Influence of Assistive Technologies on Visually Impaired Students' Experiences of Social Inclusion in Higher Education in Qatar	Jarbi, 2024	Qatar	The education law supported the inclusion	At varying levels, institutions and curricula adopt tools	screen readers, Braille displays, and digital learning tools were used by students and educators	Students felt more socially included but faced systemic inconsistencies.	Qualitative
Approximate Computing-based Assistive Shopping Trolley for Visually Challenged People	Masadeh et al., 2024	Jordan	UNCRPD commitments emphasized the disability inclusionents	In the retail shopping context, researchers developed and tested a prototype	The prototype used an IoT-based trolley with RFID, sensors, and audio guidance	During shopping, the stress caused to the disabled person was reduced	Experimental
Effectiveness of a Braille Training Program for Teachers in Jordan	AlTarawneh & Majali (2021)	Jordan	To strengthen inclusive education and disability rights government prioritized teacher training	Before and after the program, the organizer held workshops for fifteen teachers.	Instead of using advanced digital tools, the session relied more on traditional Braille literacy skills.	Teachers gained greater knowledge and confidence in reading and writing Braille.	Quantitative pre- and post-test with questionnaire-based evaluation
DisabledPeople's Fight for Rights in South Korea and Japan	Arrington, 2021	South Korea	The disability inclusion framework was experimented with by the local Government.	The retail environment did not consistently adopt the implementation of policy commitments for visually impaired individuals.	Only a small scale of tactile solutions and digital implementation was tested by the authorities.	The ongoing problem associate with navigation and signage was highlighted using community feedback.	Field survey

Experiences of Food Access Among Disabled Adults in Toronto, Canada	Schwartz et al., 2023	Canada	The implementation of smart cities emphasized the need for universal accessibility for visually impaired individuals, polices	In urban areas and stores, technology was integrated by authorities to help people with disabilities.	To support accessibility for disabled people, developers focus on creating tools using AI and IoT.	The best engagement in public places and better navigation was supports by the user.	Experimental
The Implementation of a Braille-to-Speech Prototype Application as a Self-Study Tool for Visually Impaired People	Ardiansah & Okazaki, 2021	Japan	The accessibility was made mandatory for disabled persons by the implementation of disability inclusion policies.	The retail outlets and private store lacks in the implementation of accessibility.	Retail stores adopted the assistive technology but extended it to serve for limited context.	Based on store-level compliance, disabled users experience dissatisfaction	Qualitative
Adoption of Mobile Payment Among Visually Impaired Users in Tamil Nadu Based on Technology Acceptance Model (TAM)	Parvathy & Durairaj, 2022	India	The Equity Act enforced accessibility and anti-discrimination	The accessibility requirement was complied with by large retailers	Few stores adopted the digital navigation tools	In smaller outlets, user faces challenges in accessibility	Mixed-methods
Constructing User Participation for Disabled People—The Norwegian Context	Guldvik & Askheim, 2022	Norway	Across member states, EU directives establish an accessibility framework	Based on varying rates between countries, a framework was adopted by retailers	Across different regions, the implementation of accessibility varies from one place to another based on the technological support	The store across EU states and services was accessed unequally	Comparative policy

CONCLUSION

The interplay between policy frameworks, user experiences, implementation practices, technological innovations, and experiences of users was highlighted in the narrative review helps to provide a comprehensive understanding of current challenges and practices. The strong foundation for accessibility was assured with the implementation of the UNCRPD. In retail and public environments, reamisn a significant gap between actual implementation and policy. The independence and accessibility for visually impaired individuals were

assured with the implementation of technological advancements, including refreshable tactile displays, Braille-to-speech applications, and IoT-enabled assistive devices. The local infrastructure, training, and awareness help in the effective implementation of accessibility for visually impaired individuals. The complete benefit for accessibility measures for visually impaired individuals was assured with a review focusing on the importance of user-centered design, participatory approaches, and culturally sensitive solutions. Cross-national comparisons highlighted the need for more harmonized global standards, and best practices revealed disparities in adoption and enforcement. The integration of emerging technologies in retail settings, long-term policy evaluation, and inclusion of user feedback in accessibility planning were identified as gaps in the research. The implementation of a multifaceted approach integrated with innovative technologies, robust legislation, stakeholder collaboration, and ongoing monitoring was considered the best solution to address the existence of a gap between practices and policy implementation.

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