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PERCEPTIONS OF PWDS ABOUT UTILIZATION OF ONLINE AND PHYSICAL BRANDS: CHALLENGES AND SOLUTIONS

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Abstract

This study investigates the perceptions of Persons with Disabilities (PWDs) regarding their utilization of online and physical shopping brands, focusing on the barriers they encounter and the solutions that can enhance accessibility. As digitalization expands and consumer markets diversify, the participation of PWDs in both online shopping platforms and physical retail environments has become increasingly important. However, many brands still lack inclusive designs, resulting in challenges such as inaccessible websites, limited assistive technology support, communication barriers, mobility constraints, and insufficient staff awareness. Through a structured and unstructured questionnaire, this research aims to identify the specific difficulties faced by PWDs and examine how these challenges influence their overall brand experience and satisfaction. The study further explored potential solutions, emphasizing universal design, improved accessibility standards, disability-inclusive policies, and employee training. Mix method methodological approach is used to conduct this research. Data was collective through self-made questionnaire with good reliability (Cronbach's alpha=.882) which was divided in two sections. In first section, five points Likert scale was used to get answers from the respondents and the other section based on short answers. Data was analyzed through SPSS in which descriptive statistics applied to get findings and findings have been extracted based on data analyses. The findings of this study are expected to help various brands and policymakers create more inclusive environments for special people, promoting equal participation and enhancing the customer experience for PWDs.

INTRODUCTION

Persons with Disabilities (PWDs) constitute a significant part of the global population, yet they often remain underserved and underrepresented in mainstream consumer research. According to the World Health Organization, more than one billion people live with some form of disability, making accessibility and inclusion essential components of modern consumer environments (World Health Organization, 2020). As digitalization transforms the interactions between brands and consumers, companies are increasingly expected to ensure that both online platforms and physical retail spaces are usable and welcoming for all individuals, including those with disabilities. However, PWDs continue

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to encounter multiple accessibility barriers that restrict their participation in consumer activities and limit their ability to engage meaningfully with brands (Shakespeare, 2018).

Online shopping has been promoted as a convenient alternative for individuals with mobility or environmental limitations. Yet, despite its potential benefits, many digital platforms still fail to meet accessibility guidelines such as the Web Content Accessibility Guidelines (WCAG), resulting in issues like incompatible screen readers, poor color contrast, complex interfaces, and non-captioned content (Henry et al., 2019). These barriers not only decrease usability but also impact user satisfaction, autonomy, and trust in the brand. Likewise, physical brand environments often present challenges such as inadequate ramps, narrow pathways, inaccessible product placements, lack of sign language interpretation, and insufficient staff training in disability-sensitive communication (Imrie & Luck, 2014). Such limitations create feelings of exclusion and reinforce social inequality.

Understanding how PWDs perceive both online and physical brands is essential for identifying accessibility gaps and proposing effective improvements. Their lived experiences offer valuable insights into the practical challenges that many brands overlook. Research shows that inclusive design also known as universal design benefits not only PWDs but all consumers by creating more intuitive, flexible, and user-friendly environments (Mace, 2015). Therefore, exploring these perceptions helps bridge the gap between brand promises and real user experiences. The increasing global emphasis on corporate social responsibility, diversity, and digital equity further underscores the importance of this topic. Brands that prioritize accessibility tend to enjoy stronger reputations, higher customer loyalty, and improved market reach (Lopes & Pereira, 2021).

This study aims to investigate the perceptions of PWDs regarding their utilization of online and physical brands, focusing on the challenges they face and the solutions that can enhance their consumer experience. By identifying accessibility barriers and proposing actionable strategies, this research contributes to the development of more inclusive, equitable, and socially responsible consumer environments ensuring that every individual, regardless of ability, can participate fully in modern society.

Literature Review

Numerous scholars argue that society often fails to provide equal access to goods and services, creating avoidable obstacles that restrict the independence of PWDs (Barnes, 2019). These barriers become especially visible in consumer environments, where brands may unintentionally design physical spaces or digital interfaces that exclude individuals with disabilities. Research shows that inaccessible buildings, narrow pathways, non-adaptive product displays, and the absence of disability-trained staff create significant challenges in physical brand settings (Imrie & Luck, 2014). These limitations result in reduced participation, social isolation, and decreased consumer trust. The literature suggests that such barriers can be removed through universal design principles, legislative requirements, and organizational commitment to inclusivity.

Digital transformation has shifted a large portion of consumer activity to online platforms. For PWDs, online shopping offers the potential for enhanced convenience, autonomy, and reduced mobility challenges. However, studies reveal persistent digital accessibility barriers that hinder full participation. Henry, Abou-Zahra, and Brewer (2019) report that many websites fail to comply with the Web Content Accessibility Guidelines (WCAG), resulting in issues such as poor screen-reader compatibility, inadequate colour contrast, complex navigation, and lack of captions or alternative text.

The Technology Acceptance Model (TAM) has been widely applied to understand how users evaluate digital environments. For PWDs, Perceived Ease of Use is strongly influenced by the presence of assistive-friendly features, whereas

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Perceived Usefulness depends on how effectively a platform supports their needs (Davis, 1989). According to Kelly (2020), online accessibility is not merely a technical preference but a fundamental human right, as it determines whether individuals can participate equally in the digital economy. Inaccessible online environments can lead to frustration, reduced engagement, and avoidance of certain brands altogether. Research shows that PWDs prefer brands that demonstrate a commitment to digital inclusion, as this enhances trust, loyalty, and satisfaction (Lopes & Pereira, 2021).

Consumer Experience Theory highlights that customer satisfaction is shaped by emotional, cognitive, behavioral, and sensory interactions (Schmitt, 1999). For PWDs, these interactions are strongly influenced by the accessibility of the environment and the behavior of staff. Studies indicate that positive staff attitudes, disability-friendly communication, and the availability of support services improve the consumer experience for PWDs (Khan & Abdullah, 2022). In physical settings, accessibility features such as ramps, lifts, tactile indicators, and wide aisles significantly improve mobility and independence. However, many retail environments still fail to meet accessibility standards, resulting in exclusion and reduced access (Imrie & Luck, 2014). Similarly, brands that offer accessible customer service features such as sign language interpreters, braille menus, or assistive listening devices—are perceived more positively.

Online consumer experience for PWDs is similarly influenced by digital inclusivity, clarity of information, ease of navigation, and responsiveness of customer support. Research shows that brands that adopt universal design principles create more engaging and meaningful consumer interactions for everyone, not just PWDs (Mace, 2015). Beyond environmental and digital barriers**,** attitudinal barriers pose a significant challenge. Negative stereotypes, lack of disability awareness among staff, and social stigma reduce the comfort and confidence of PWDs during brand interactions (Shakespeare, 2018). Research shows that even when physical or digital environments are accessible, negative social attitudes can significantly diminish the consumer experience (Ahmed & Saeed, 2021). Attitudinal barriers extend to managerial perceptions as well. Many businesses underestimate the economic power of PWDs as consumers, leading to neglect in inclusive marketing strategies. According to Donovan (2020), the global spending power of PWDs and their families is substantial; thus, inclusive branding is not only a moral obligation but also a commercially beneficial strategy.

The literature repeatedly emphasizes universal design as a powerful approach to achieving accessibility and inclusion. Universal design advocates for environments and products that are inherently usable by all individuals, without requiring adaptations or specialized equipment (Mace, 2015). Research confirms that universal design benefits a wide range of consumers older adults, people with temporary injuries, and even individuals carrying heavy items making it a holistic solution. Studies also highlight the role of corporate social responsibility (CSR) in promoting disability inclusion. Brands that incorporate accessibility into their CSR strategies experience enhanced reputation, stronger customer loyalty, and broader market appeal (Lopes & Pereira, 2021).

Problem Statement

Despite global advancements in technology, social inclusion, and accessibility policies, Persons with Disabilities (PWDs) continue to face significant challenges when interacting with both online and physical brands. Although online platforms are often promoted as convenient and accessible alternatives for individuals with mobility or sensory limitations, many websites and mobile applications still fail to meet recognized accessibility standards. Issues such as incompatible assistive technologies, complex navigation, poor visual clarity, and lack of alternative text reduce usability for PWDs. Similarly, physical brand environments frequently

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lack essential accessibility accommodations, including wheelchair-friendly pathways, appropriate signage, accessible product displays, and staff trained in disability-sensitive communication. Despite the growing emphasis on universal design and corporate responsibility, there is insufficient research exploring how PWDs themselves perceive these challenges in both digital and physical consumer spaces. Therefore, the problem addressed in this study is the insufficient understanding of PWDs' perceptions regarding the accessibility, usability, and inclusiveness of online and physical brands, leading to a gap between accessibility policies and real-life consumer experiences. This research seeks to identify the specific challenges faced by PWDs and propose strategies that brands can adopt to create more inclusive and supportive environments.

Research Objectives

To explore the perceptions of PWDs regarding the utilization of online and physical brands, and to identify the challenges they face along with potential solutions. The following objectives are prepared:

1. To examine the accessibility experiences of PWDs using online brands.
2. To analyze PWDs' perceptions of accessibility in physical brand environments.
3. To identify key challenges faced by PWDs while interacting with digital and physical brands.
4. To explore practical solutions that can enhance brand accessibility for PWDs.
5. To compare accessibility satisfaction levels between online and physical brands.

Research Questions

The following questions are made to conduct this study.

1. How do PWDs perceive the accessibility of online brands?
2. What are their perceptions about the accessibility of physical brands?
3. What challenges do PWDs face while interacting with both online and physical brands?
4. What solutions do PWDs suggest to improve brand accessibility?
5. How do online brands differ from physical brands in terms of accessibility satisfaction?

Significance of the Study

This study holds significant importance for multiple stakeholders, including researchers, policymakers, brands, and Persons with Disabilities (PWDs). By examining the perceptions of PWDs regarding their utilization of online and physical brands, the research provides a deeper understanding of the barriers that hinder their full participation in consumer markets. This study contributes to academic literature by addressing a gap in research related to how PWDs experience brand interactions across both digital and physical environments. While accessibility guidelines exist, there is limited empirical evidence reflecting the lived experiences of PWDs as consumers. The findings will assist different brands and businesses in identifying weaknesses in their customer experience design. This study provides valuable implications for policymakers and disability rights organizations and this research empowers PWDs by giving voice to their experiences, fostering awareness of their needs, and promoting a more inclusive consumer environment.

Theoretical Framework

This study is supported by several theoretical perspectives that help explain how Persons with Disabilities (PWDs) experience, evaluate, and engage with both online and physical brands. These theories provide a foundation for understanding accessibility barriers, technology adoption, consumer expectations, and inclusive design principles. The Social Model of Disability argues that disability is not caused by an individual's physical or cognitive limitation, but by environmental and social barriers that restrict participation (Shakespeare, 2018). This theory

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emphasizes the need to modify the environment rather than the individual. Barriers such as inaccessible buildings, non-inclusive digital platforms, discriminatory attitudes, lack of support services, and ineffective policies are seen as the real sources of disability (Oliver, 1996). In the context of this study, the Social Model is especially relevant because it highlights how online and physical brands create or remove accessibility barriers for Persons with Disabilities (PWDs). For example:

- Websites that do not support screen readers create digital exclusion.
- Shops without ramps or accessible restrooms limit mobility.
- Staff who lack disability awareness contribute to negative consumer experiences.

By applying the Social Model, this research emphasizes that improving accessibility is not about "fixing" PWDs, but about making brands, technologies, and environments inclusive for everyone. This model provides a strong foundation for understanding the challenges faced by PWDs and supports the need for universal design, equitable treatment, and inclusive consumer spaces.

Methodology

This study adopted a mix method research approach to know the views of PWDs about online and physical shopping brands including the challenges they face and potential solutions. A quantitative approach allows for systematic collection, measurement, and analysis of data, providing statistically reliable results that can inform policy and business practices (Creswell & Creswell, 2018). Mixed methods research is an approach that combines quantitative data (numbers, measurements, statistics) with qualitative data (interviews, observations, open-ended responses) within a study or program of inquiry. Rather than choosing one or the other, researchers intentionally collect and analyze both types of data, then combine the results to create a more complete picture of the question they are investigating. The target population consists on Persons with Disabilities (PWDs) of three categories (Hearing Impairment, Visual Impairment, Physical Impairment) who have experience using online shopping platforms or physical retail stores. Simple random sampling technique of probability was used to conduct this study. The sample size for this study was comprised on 150 participants, in which 85 respondents were hearing impaired, 35 were visual impaired and 30 were physically impaired. This sample was sufficient to allow meaningful statistical analysis while considering feasibility and accessibility constraints. A self-made five-point Likert scale ((1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5 = Strongly Agree) with good reliability (Cronbach's alpha=.882) was used for data collection. The questionnaire has been divided into five sections (Section A**:** Demographic Information, Section B: Perceptions toward Online Brands, Section C: Perceptions toward Physical Brands, Section D: Challenges Faced, Section E: Preferred Solutions, Section F: Open-Ended Questions). Twenty-seven statements were based on Likert scale, while three statements based on open-ended questions which allow the respondents to express their experiences in their own words.

Ethical Considerations

Ethical considerations are central to conducting research involving Persons with Disabilities (PWDs), as this population may be particularly vulnerable to privacy violations, exploitation, or discomfort. This study adheres strictly to ethical research principles to ensure the rights, dignity, and well-being of all participants are protected. All participants were provided with clear, understandable information about the purpose, objectives, and procedures of the study. They were informed that participation is voluntary and that they have the right to withdraw at any time without facing any negative consequences. Consent will be obtained through signed consent forms for physical participants and digital consent for online respondents. To maintain participant privacy, no personally identifying

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information (e.g., names, addresses) will be collected unless necessary for follow-up clarification. All data was stored securely, with access restricted to the research team. The study ensures that participants do not experience psychological, social, or physical harm. Questions were phrased sensitively, avoiding language that may stigmatize or marginalize PWDs. Participants were informed that they may skip any questions that make them uncomfortable. The research instruments and procedures will be made accessible to all participants, considering different disability types. Throughout the research, participants' autonomy and dignity were respected. Their experiences, opinions, and suggestions treated with care and consideration, ensuring that the research reflects their voices authentically and responsibly.

Limitations

Potential limitations include:

- Limited sample diversity due to accessibility constraints.
- Self-reported data may be subject to bias.
- Time and resource constraints may restrict the sample size.

Despite these limitations, the methodology ensures a robust, valid, and reliable investigation of PWDs' perceptions of online and physical brand utilization.

Data Analysis

Table 1

Frequency distribution based on type of disabilities

Types of Disability	*Frequency*	*Percent*	*Cumulative Percent*
Hearing Impairment	85	56.7	56.7
Visual Impairment	35	23.3	80.0
Physically Impairment	30	20.0	100.0
Total	150	100.0	

Table 1 shows that majority (56.7%) of the respondents in data set were hearing impaired as well as (23.3%) of the respondents were visually impaired and the remaining (20%) of the respondents were physically impaired.

Table 2

Frequency distribution based on level of disabilities

Level of Disability	*Frequency*	*Percent*	*Cumulative Percent*
Mild	19	12.7	12.7
Moderate	39	26.0	38.7
Severe	60	40.0	78.7
Profound	32	21.3	100.0
Total	150	100.0	

Table 2 revealed that majority (40%) of the respondents were belong to severe category of concerned disability. Although, (26%) linked with moderate level of disability and (21.3%) of the respondents were profound level of disability. The remaining (12.7%) respondents were belonged to mild level of disability.

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Table 3
Frequency distribution based on age interval

Age Interval	*Frequency*	*Percent*	*Cumulative Percent*
15-20 years	37	24.7	24.7
21-30 years	83	55.3	80.0
31-40 years	25	16.7	96.7
41-50 years	5	3.3	100.0
Total	150	100.0	

Table 3 shows that majority (55.3%) of the participants belonged to 21-30 years age group and (24.7%) of the participants were from 15-20 years of age group. This table also indicated that (16.7%) participants belonged to 31-40 years of age group and remaining just (3.3%) were from 41-50 years of age group.

Table 4
Frequency distribution based on gender

Gender	*Frequency*	*Percent*	*Cumulative Percent*
Female	107	71.3	71.3
Male	43	28.7	100.0
Total	150	100.0	

Table 4 indicates that majority (71.3%) of the participants were female and remaining (28.7%) of the participants were male in the data set.

Table 5
Frequency distribution based on level of education

Age Interval	*Frequency*	*Percent*	*Cumulative Percent*
Primary	9	6.0	6.0
Secondary	60	40.0	46.0
Intermediate	41	27.3	73.3
Bachelor	17	11.3	84.7
>Master	23	15.3	100.0
Total	150	100.0	

Table 5 shows that majority (40%) of the respondents were having secondary level of education as well as (27.3%) respondents having intermediate level of education. It also indicates that (11.3%) of the respondents in the data set having bachelor degree holder and (15.3%) were greater than master degree holder as well as remaining just (6%) of the respondents were having primary level of education.

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Table 6
Online brands are generally accessible for persons with disabilities

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	32	21.3	21.3
Disagree	21	14.0	35.3
Neutral	54	36.0	71.3
Agree	43	28.7	100.0
Total	150	100.0	21.3

Table 6 shows that majority (36%) of the respondents were neutral that online brands are generally accessible for persons with disabilities. Against this statement, 28.7% of the respondents were agreed meanwhile 21.3% were strongly disagree and 14% of the respondents were disagree.

Table 7
Online websites/apps are easy to navigate for me

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	10	6.7	6.7
Disagree	22	14.7	21.3
Neutral	53	36.0	92.7
Agree	54	35.3	56.7
Strongly Agree	11	7.3	100.0
Total	150	100.0	

Table 7 shows that majority (36%) of the respondents were neutral that online brands websites/apps are easy to navigate for the persons with disabilities. Against this statement, 35.3% of the respondents were agreed meanwhile 7.3% were strongly disagree and 14.7% of the respondents were disagree as well as 6.7% were strongly disagree.

Table 8
Assistive technologies work properly on most websites

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	31	20.7	20.7
Disagree	10	6.7	27.3
Neutral	65	43.3	70.7
Agree	33	22.0	92.7
Strongly Agree	11	7.3	100.0
Total	150	100.0	

Table 8 shows that majority (43.3%) of the respondents pointed to neutral against this statement. Although, 22.0% of the respondents were agreed meanwhile 7.3% were strongly disagree and 6.7% of the respondents were disagree as well as 20.7% were strongly disagree that assistive technologies work properly on most websites.

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Table 9
Online brands provide clear and accessible information

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	11	7.3	7.3
Disagree	75	50.0	50.0
Neutral	42	28.0	22.0
Agree	22	14.7	100.0
Total	150	100.0	

Table 9 shows that majority (50%) of the respondents disagree to this statement that online brands provide clear and accessible information. Although, 28% of the respondents were neutral meanwhile 14.7% were agreed and 7.3% of the respondents were strongly disagree about it.

Table 10
I feel comfortable shopping or interacting with online brands

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	11	7.3	7.3
Disagree	75	50.0	50.0
Neutral	42	28.0	22.0
Agree	22	14.7	100.0
Total	150	100.0	

Table 10 shows that majority (50%) of the respondents disagree to this statement that they feel comfortable shopping or interacting with online brands. Although, 28% of the respondents were neutral meanwhile 14.7% were agreed and 7.3% of the respondents were strongly disagree about it.

Table 11
Online brands consider the needs of PWDs in their design

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	21	14.0	14.0
Disagree	10	6.7	20.7
Neutral	32	21.3	42.0
Agree	87	58.0	100.0
Total	150	100.0	

Table 11 shows that majority (58%) of the respondents agree to this statement that online brands consider the needs of PWDs in their design. Although, 21% of the respondents were neutral meanwhile 14.0% were strongly disagree and 6.7% of the respondents were disagree about it.

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Table 12
Customer support for online brands is accessible

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	11	7.3	7.3
Disagree	65	43.3	20.7
Neutral	43	28.7	49.3
Agree	20	13.3	92.7
Strongly Agree	11	7.3	100.0
Total	150	100.0	

Table 12 shows that majority (43.3%) of the respondents disagree to this statement. Others 28% of the respondents were neutral meanwhile 13.3% were agree and 7.3% of the respondents were strongly agreed about it.

Table 13
Physical stores/outlets are accessible for PWDs

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	22	14.7	14.7
Neutral	65	43.3	49.3
Agree	52	34.7	92.7
Strongly Agree	11	7.3	100.0
Total	150	100.0	

Table 13 shows that majority (43.3%) of the respondents were neutral about above mentioned statement. Others 34.7% of the respondents were agree meanwhile 14.7% were strongly disagree and 7.3% of the respondents were strongly agreed about it.

Table 14
Staff at physical brands treats PWDs respectfully

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	11	7.3	7.3
Neutral	42	28.0	35.3
Agree	55	36.7	72.0
Strongly Agree	42	28.0	100.0
Total	150	100.0	

Table 14 shows that majority (36.7%) of the respondents were agree about above mentioned statement. Others 28% of the respondents were strongly agree and same likely 28% were neutral. Meanwhile 7.3% were strongly disagree about it.

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Table 15
Ramps, elevators, and pathways are available in most stores

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	75	50.0	14.7
Neutral	10	6.7	21.3
Agree	43	28.7	50.0
Strongly Agree	22	14.7	100.0
Total	150	100.0	

Table 15 shows that majority (50%) of the respondents were strongly disagree about above mentioned statement. Others 28.7% of the respondents were agree and 14.7% were strongly agreed. Meanwhile 6.7% were neutral about it.

Table 16
Physical stores have proper accessibility signage

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	11	7.3	7.3
Disagree	64	42.7	28.7
Neutral	32	21.3	50.0
Agree	32	21.3	92.7
Strongly Agree	11	7.3	100.0
Total	150	100.0	

Table 16 shows that majority (42.7%) of the respondents were disagree about above mentioned statement. Others 21.3% of the respondents were agree and same likely 21.3% were neutral and remaining 7.3% were strongly agreed.

Table 17
I can move freely and comfortably inside physical stores

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Neutral	63	42.0	42.0
Agree	76	50.7	92.7
Strongly Agree	11	7.3	100.0
Total	150	100.0	

Table 17 shows that majority (50.7%) of the respondents were agree about above mentioned statement and 42% were neutral as well as other 7.3% were strongly agree.

Table 18
Staff are trained to communicate with PWDs

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Disagree	107	71.3	7.3
Neutral	32	21.3	28.7
Agree	11	7.3	100.0

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Total	150	100.0

Table 18 shows that majority (71.3%) of the respondents were disagree about above mentioned statement and 21.3% were neutral as well as other 7.3% were agree.

Table 19
Physical brands show inclusivity in their environment

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Disagree	11	7.3	7.3
Neutral	21	14.0	21.3
Agree	107	71.3	92.7
Strongly Agree	11	7.3	100.0
Total	150	100.0	

Table 19 revealed that majority (71.3%) of the respondents were agree about above mentioned statement and 14% were neutral as well as other 7.3% were agree and disagree respectively.

Table 20
I face difficulties navigating online platforms

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	22	14.7	14.7
Neutral	54	36.0	50.7
Agree	54	36.0	86.7
Strongly Agree	20	13.3	100.0
Total	150	100.0	

Table 20 revealed that majority (36%) of the respondents were agree and neutral respectively about above mentioned statement. Although 14.7% were strongly disagree and remaining 13.3% strongly agreed.

Table 21
I face barriers accessing physical stores

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	22	14.7	14.7
Disagree	11	7.3	22.0
Neutral	22	14.7	36.7
Agree	85	56.7	93.3
Strongly Agree	10	6.7	100.0
Total	150	100.0	

Table 21 revealed that majority (56%) of the respondents were agree and 14.7% neutral and strongly disagree respectively about above mentioned statement. Although 7.3% were disagree and remaining 6.7% were strongly agreed.

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Table 22
Online payment methods are difficult to use

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	22	14.7	14.7
Disagree	31	20.7	35.3
Neutral	32	21.3	56.7
Agree	43	28.7	85.3
Strongly Agree	22	14.7	100.0
Total	150	100.0	

Table 22 revealed that majority (28.7%) of the respondents were agreed and 21.3% were neutral. Although 14.7% were strongly disagree and strongly agree respectively as well 20.7% were disagree about above mentioned statement.

Table 23
Physical stores lack proper accessibility resources

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Disagree	10	6.7	6.7
Neutral	74	49.3	56.0
Agree	66	44.0	100.0
Total	150	100.0	

Table 23 revealed that majority (49.3%) of the respondents were neutral and 44% were agreed. Although remaining 6.7% were disagree about above mentioned statement.

Table 24
Many brands do not consider disability-related needs

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Disagree	31	20.7	20.7
Neutral	32	21.3	42.0
Agree	66	44.0	86.0
Strongly Agree	21	14.0	100.0
Total	150	100.0	

Table 24 revealed that majority (44%) of the respondents were agreed and 21.3% were neutral. Although remaining 20.7% were disagree and 14% of the respondents were strongly agreed about above mentioned statement.

Table 25
I avoid certain brands because of accessibility challenges

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Neutral	33	22.0	22.0
Agree	84	56.0	78.0
Strongly Agree	33	22.0	100.0

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Total	150	100.0

Table 25 revealed that majority (56%) of the respondents were agreed and 22% of the respondents were neutral and strongly agreed respectively.

Table 26
Online brands should improve compatibility with assistive technologies

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	11	7.3	7.3
Disagree	32	21.3	28.7
Neutral	22	14.7	43.3
Agree	54	36.0	79.3
Strongly Agree	31	20.7	100.0
Total	150	100.0	

Table 26 revealed that majority (36%) of the respondents were agreed and 21.3% were disagreed about this statement. Although remaining 20.7% were strongly agree and 14.7 % of the respondents were neutral as well as 7.3% were strongly disagreed.

Table 27
Physical stores should provide ramps and wider aisles

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Disagree	21	14.0	14.0
Neutral	11	7.3	21.3
Agree	87	58.0	79.3
Strongly Agree	31	20.7	100.0
Total	150	100.0	

Table 27 revealed that majority (58%) of the respondents were agreed and 20.7% were strongly agreed about this statement. Although remaining 14% were disagree and 7.3% of the respondents were neutral.

Table 28
Brands should train staff to interact with PWDs

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	22	14.7	14.7
Disagree	20	13.3	28.0
Neutral	11	7.3	35.3
Agree	44	29.3	64.7
Strongly Agree	53	35.3	100.0
Total	150	100.0	

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Table 28 revealed that majority (35.3%) of the respondents were strongly agreed and 29.3% were agreed about this statement. Although remaining 14.7% were strongly disagree and 13.3 % of the respondents were disagree as well as 7.3% were neutral about above mentioned statement.

Table 29
Online brands should simplify navigation and interfaces

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	11	7.3	7.3
Disagree	21	14.0	21.3
Neutral	43	28.7	50.0
Agree	44	29.3	79.3
Strongly Agree	31	20.7	100.0
Total	150	100.0	

Table 29 revealed that majority (29.3%) of the respondents were agreed and 20.7% were strongly agreed about this statement. Although remaining 28.7% were neutral and 14% of the respondents were disagree as well as 7.3% were strongly disagree about above mentioned statement.

Table 30
Brands should include PWDs in product/service testing.

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	11	7.3	7.3
Disagree	21	14.0	21.3
Neutral	43	28.7	50.0
Agree	55	36.7	86.7
Strongly Agree	20	13.3	100.0
Total	150	100.0	

Table 30 revealed that majority (36.7%) of the respondents were agreed and 13.3% were strongly agreed about this statement. Although remaining 28.7% were neutral and 14% of the respondents were disagree as well as 7.3% were strongly disagreed about above mentioned statement.

Table 31
Physical brands should display clear accessibility signage

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	22	14.7	14.7
Neutral	22	14.7	29.3
Agree	75	50.0	79.3
Strongly Agree	31	20.7	100.0
Total	150	100.0	

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Table 31 revealed that majority (50%) of the respondents were agreed and 20.7% were strongly agreed about this statement. Although remaining 14.7% were neutral and strongly disagree respectively.

Table 32
Customer support should be more responsive to PWDs' needs

Responses	*Frequency*	*Percent*	*Cumulative Percent*
Strongly Disagree	22	14.7	14.7
Neutral	11	7.3	22.0
Agree	76	50.7	72.7
Strongly Agree	41	27.3	100.0
Total	150	100.0	

Table 32 revealed that majority (50.7%) of the respondents were agreed and 27.3% were strongly agreed about this statement. Although remaining 7.3% were neutral and 14.7% were strongly disagree about above mentioned statement.

Table 33
Independent sample T-test on the basis of gender

Gender	*Mean*	*S.D*	*t*	*df*	*Sig.*	*MD*
Female	93.93	13.670	2.212	148	.029	5.669
Male	88.26	15.444				

Table 33 revealed that mean value of female respondents is higher (M=93.93, SD=13.670) as compare to male respondents (M=88.26, SD=15.444) as well as (t=2.212, df=148). So, p value ($p<.05$) which indicates that there is a significance difference among the responses of female and male respondents. This table also indicates mean difference (MD=5.669) among the responses.

Table 34
One-way ANOVA on type of disabilities

Groups	SS	*df*	MS	*f*	*Sig.*
Between Groups	25.085	2	12.543	.060	.942
Within Groups	30788.415	147	209.445		
Total	30813.500	149			

Table 34 shows One-way ANOVA on type of disabilities. It indicates between groups (SS=25.085, df=2, MS=12.543) as well within groups (SS=30788.415, df=147, MS=209.445). This table also indicates that (f=.060) and (Sig=.942) which indicates that there is no significant difference among the groups based on type of disabilities.

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Table 35
One-way ANOVA on level of disabilities

Groups	SS	*df*	MS	*f*	*Sig.*
Between Groups	248.078	3	82.693	.395	.757
Within Groups	30565.422	146	209.352		
Total	30813.500	149			

Table 35 shows One-way ANOVA on type of disabilities. It indicates between groups (SS=248.078, *df*=3, MS=82.693) as well within groups (SS=30565.422, *df*=146, MS=209.352). This table also indicates that (*f*=.395) and (*Sig*=.757) which indicates that there is no significant difference among the groups based on level of disabilities.

Table 36
One-way ANOVA on age groups

Groups	SS	*df*	MS	*f*	*Sig.*
Between Groups	1160.550	3	386.850	1.905	.131
Within Groups	29652.950	146	203.102		
Total	30813.500	149			

Table 36 revealed One-way ANOVA on age groups. It shows the values between groups (SS=1160.550, *df*=3, MS=386.850) as well within groups (SS=29652.950, *df*=146, MS=203.102). This table also indicates that (*f*=1.905) and (*Sig*=.131) which indicates that there is no significant difference among the age groups of the respondents.

Table 37
One-way ANOVA on educational level

Groups	SS	*df*	MS	*f*	*Sig.*
Between Groups	1787.104	4	446.776	2.232	.068
Within Groups	29026.396	145	200.182		
Total	30813.500	149			

Table 37 revealed One-way ANOVA on age groups. It shows the values between groups (SS=1787.104, *df*=4, MS=446.776) as well within groups (SS=29026.396, *df*=145, MS=200.182). This table also indicates that (*f*=2.232) and (*Sig*=.068) which indicates that there is no significant difference among the educational levels of the respondents.

Thematic Analysis

Statement No. 1: facing major challenges during using online brands.

Theme No. 1: respondents with disabilities illustrated that they face difficulties and communication barrier especially persons with hearing impairment when they use online brands for shop anything. Checkout and payment process can be confusing and complicated for persons with disabilities.

Theme No. 2: some respondents answered that they have trust issues especially shopping from online brands because often the ordered item

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does not arrive at home accurately. Late delivery of ordered items is also a cause of losing the trust of special people regarding online brands.

Theme No. 3: some people also said that the lack of guarantee of goods from online companies, the issue of non-return or exchange, difficult use of the application and poor website, these are causes of trouble for special people. Sometime mobile applications are not accessible or supportive because they may have lack of knowledge about products and low quality.

Statement No. 2: facing major challenges during using physical stores?

Theme No. 4: persons with disabilities answered that ramps or lifts are not available in mostly places for wheel chair users and no any facility available of sign language interpreter for hearing impaired persons to communicate easily. Not accessible environment is provided by physically shopping brands or store for persons with disabilities, may be brands have lack of awareness about the rights of these persons.

Theme No. 5: mostly respondents replied that the visiting space is very cramped and on the other hand, the prices are quite high, which makes them feel uncomfortable and the people there also look at the special people strangely, which damages the self-respect of the special people. They face difficult to find better things for themselves on physically store.

Statement No. 3: solutions would you recommend to improve accessibility.

Theme No. 6: Respondents said that brands should be rationalized according to legislation for better deal with persons with disabilities. Staff should be trained and aware to provide better services to persons with disabilities support whether physical or online shopping.

Theme No. 6: mobile applications or web sited should be accessible and friendly usage. High quality of goods should be maintained and low affordable prices should be offered for better shopping.

Major Findings

1. Majority (56.7%) of the respondents in data set were hearing impaired.
2. Majority (71.3%) of the participants were female.
3. Majority (55.3%) of the participants belonged to 21-30 years age group.
4. Majority (58%) of the respondents agree that online brands consider the needs of PWDs in their design.
5. Majority (50.7%) of the respondents were agree that they can move freely and comfortably inside physical stores.
6. Majority (71.3%) were disagree that staff are trained to communicate with PWDs.
7. Majority (71.3%) were agree that physical brands show inclusivity in their environment.
8. Majority (56%) participants were agree that they face barriers accessing physical stores.
9. Majority (56%) respondents were agree that they avoid certain brands because of accessibility challenges.
10. Majority (58%) respondents were agree that physical stores should provide ramps and wider aisles.
11. There is a significant difference (Sig. =.029) among the responses of male and female.
12. There is no significant difference (Sig. =.942) among the results of all disabilities.
13. There is no significant difference (Sig. =.757) among the level of disabilities.
14. There is no significant difference (Sig. =.131) among the responses of all age groups.
15. There is no significant difference (Sig. =.068) among the results on educational levels.
16. Respondents face difficulties and communication barrier especially persons with hearing impairment when they use online brands for shop anything.
17. Participants that have trust issues especially shopping from online brands because often the ordered item does not arrive at home accurately.
18. Mobile applications are not accessible or supportive because they may have lack of knowledge about products and low quality.

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19. Lake of trained staff to support customers with disabilities.
20. Not accessible environment is provided by physically shopping brands or store for persons with disabilities.

Discussion

The present study explored the accessibility, inclusivity, and experiences of persons with disabilities (PWDs) regarding online and physical brands. The findings revealed several important concerns related to accessibility, communication, trust, and customer support for PWDs in both digital and physical shopping environments. These demographics suggest that young adults with disabilities, particularly females and individuals with hearing impairment, are more actively engaged in online and physical shopping. Regarding online accessibility, the findings showed mixed responses. These findings indicate that despite technological improvements, many online platforms still fail to meet the accessibility needs of PWDs. The results are consistent with previous studies emphasizing that inaccessible web design creates barriers for persons with disabilities and limits their digital participation. Participants highlighted that ordered items often do not arrive accurately and delayed deliveries reduce their trust in online shopping. These concerns suggest that accessibility is not limited to website design alone; service quality, communication efficiency, and reliability are equally important factors affecting customer satisfaction among PWDs. The findings also revealed significant concerns regarding physical accessibility in stores and shopping centers. Half of the respondents strongly disagreed that ramps, elevators, and pathways are available in most stores. Lack of proper infrastructure, such as ramps and wider aisles, limits the mobility and independence of PWDs during shopping activities. Another important issue identified in this study was the lack of trained staff. This finding is particularly important for individuals with hearing impairments who often experience communication barriers while shopping. Effective customer service requires staff to understand the unique needs of PWDs and provide respectful, supportive, and accessible assistance. The participants strongly supported the need for improvements in accessibility measures. However, no significant differences were found based on type of disability, severity of disability, age groups, or educational levels. Findings of qualitative further strengthened the quantitative results. Respondents reported that communication difficulties, especially among persons with hearing impairment, while using online brands. They also highlighted issues related to inaccessible mobile applications, low product quality, unaffordable prices, and untrained staff. Overall, the study concludes that although some positive efforts toward inclusivity exist, substantial barriers still prevent persons with disabilities from fully benefiting from online and physical shopping experiences. Accessibility-friendly websites, inclusive store infrastructure, trained staff, reliable services, and implementation of disability-related policies are essential to improve the shopping experiences of PWDs. Brands and policymakers should work collaboratively to ensure equal access, independence, and dignity for persons with disabilities in all forms of shopping environments.

Conclusion

The study concluded that persons with disabilities (PWDs) face multiple accessibility and communication challenges while interacting with both online and physical brands. Most of the participants had severe disabilities and secondary-level education, which reflects the diversity and support needs of the sampled population. The findings revealed that although some respondents believed assistive technologies work properly on many websites, a large number were dissatisfied with the accessibility and clarity of information provided by online brands. Participants expressed discomfort and lack of trust while shopping online due to inaccurate delivery of products, delayed shipments, inaccessible mobile

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applications, and poor-quality goods. Communication barriers, particularly for persons with hearing impairment, further reduced their confidence in online shopping experiences. Regarding physical shopping environments, the study found that respondents faced considerable accessibility barriers. Many participants reported the absence of ramps, elevators, pathways, and proper accessibility signage in stores. The lack of trained staff capable of communicating and assisting persons with disabilities was identified as a major concern. Statistical analysis showed a significant difference between male and female responses, while no significant differences were found among disability types, severity levels, age groups, or educational levels. This indicates that accessibility challenges are commonly experienced by PWDs regardless of their demographic differences. Brands should adopt disability-friendly policies, ensure accessible digital platforms, provide physical accessibility facilities such as ramps and wider aisles, display clear signage, and train staff to effectively support customers with disabilities. Furthermore, strict implementation of legislation and awareness regarding the rights of persons with disabilities is necessary to promote equal participation, trust, and satisfaction in shopping experiences.

Recommendations

1. Online brands should ensure that their websites and mobile applications are fully accessible for persons with disabilities (PWDs). Features such as screen reader compatibility, captioned videos, sign language support, voice navigation, and simple layouts should be integrated.
2. Physical stores should install ramps, elevators, wider aisles, accessible washrooms, handrails, and proper pathways so that PWDs can move independently and comfortably while shopping.
3. Brands should conduct regular training programs for staff regarding disability awareness, respectful behavior, and effective communication strategies, especially for customers with hearing impairment and other communication difficulties.
4. Online and physical brands should provide product details, pricing, instructions, and customer policies in accessible formats such as easy-to-read text, visual symbols, captions, and multilingual/sign language support.
5. Customer support systems should be more responsive and inclusive by offering multiple communication channels such as live chat, video call interpretation, text messaging, and dedicated helplines for persons with disabilities.
6. Brands should improve product quality control, accurate order delivery, secure payment systems, and timely shipping to reduce trust issues and increase confidence among customers with disabilities.
7. Online and physical brands should maintain high-quality standards while offering affordable prices and discounts for PWDs to encourage equal participation in shopping activities.
8. Awareness campaigns should be organized to educate brands, store owners, and society about the rights, needs, and importance of inclusion of persons with disabilities in commercial environments.
9. Government authorities should develop and enforce legislation requiring brands and stores to follow accessibility standards. Regular monitoring and penalties for non-compliance should also be introduced.
10. Brands should adopt universal design principles in both online and physical environments so that products, services, and spaces can be used easily and safely by all individuals regardless of disability type or severity.

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