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Wearing Inclusion: Bridging Design, Dignity and Disability Through Adaptive Clothing in India

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KEYWORDS

Adaptive clothing, disability-inclusive design, dignity-first fashion, sustainable adaptive wear, assistive technology, inclusive policy frameworks, co-creation in design.

ABSTRACT

For millions of Indians with disabilities, aging populations, or limited mobility, getting dressed every day can be a silent struggle. Buttons that won't fasten, zippers that resist trembling hands, and seams that irritate sensitive skin aren't just inconveniences—they're daily reminders of exclusion. Adaptive clothing, designed with thoughtful modifications for ease and dignity, has the power to transform this reality. Yet in India, where over **26 million people live with disabilities**, this segment remains overlooked by mainstream fashion. This research goes beyond market gaps to ask a deeper question: *How can adaptive clothing in India evolve from a niche solution to a movement that celebrates inclusion?*

Through conversations with wearers, caregivers, designers, and policymakers, we uncover the lived realities behind the data—the mother who stitches makeshift Velcro onto her child's school uniform, the stroke survivor who avoids social gatherings due to clothing discomfort, and the designers pioneering open-back kurtas or magnetic closures. While global innovations like **3D-printed prosthetics-integrated wearables** and **AI-driven size customization** inspire progress, India's challenges are unique: price sensitivity, stigma around disability, and a lack of retail visibility. Our mixed-method study reveals that **82% of caregivers** prioritize affordability, while **67% of users** crave stylish designs that don't scream "medical." Crucially, we spotlight grassroots successes, like social enterprises upcycling sarees into adaptive apparel or startups using **crowdsourced co-design** with wheelchair users.

The path forward demands collaboration: **policy incentives** for inclusive brands, **sustainable textile innovations** (like breathable, pressure-relief fabrics), and **awareness campaigns** reframing adaptive wear as fashion, not compromise. By centring human dignity in design, India can weave disability inclusion into the fabric of everyday life—one garment at a time..

1. INTRODUCTION

Clothing is one of humanity's most basic needs, yet its significance extends far beyond mere utility. It serves as a medium of self-expression, cultural identity, and social participation. However, for individuals with disabilities, the elderly, and those with chronic medical conditions, conventional clothing often presents insurmountable challenges. Buttons that cannot be fastened, zippers that refuse to slide, and seams that irritate sensitive skin transform the simple act of dressing into a daily ordeal. These are not minor inconveniences but systemic barriers that reinforce social exclusion.

The World Health Organization (WHO) estimates that over 1 billion people globally live with some form of disability, with 80% residing in developing countries like India (WHO, 2023). In India alone, the 2011 Census recorded 26.8 million

people with disabilities, a figure likely underreported due to stigma and varying definitions of disability. When combined with India's rapidly aging population—projected to reach 194 million seniors by 2031 (UNPF, 2023)—the need for functional, dignified clothing solutions becomes undeniable.

Fashion is more than just style—it's about dignity, independence, and self-expression. Yet, for millions of Indians with disabilities, chronic illnesses, or age-related mobility challenges, getting dressed can be a daily struggle. Buttons, zippers, and tight-fitting clothes—designed for able-bodied individuals—often become barriers rather than comforts. This is where adaptive clothing steps in.

Adaptive clothing represents a paradigm shift in fashion design, moving beyond aesthetics to prioritize functionality and inclusivity. These garments incorporate innovative features such as:

- Magnetic closures and Velcro fasteners replacing buttons and zippers
- Open-back designs and side-seam openings for wheelchair users
- Seamless, tagless fabrics for sensory-sensitive individuals
- Adjustable hems and expandable waistbands for fluctuating body shapes

The global adaptive clothing market, valued at $22.3 billion in 2022, is projected to grow at 6.8% CAGR through 2030 (Grand View Research, 2023). International brands like Tommy Hilfiger (launching its adaptive line in 2016) and Nike (with its FlyEase hands-free shoes) have demonstrated that inclusive design can be both commercially viable and socially impactful. Technological advancements such as 3D body scanning for custom fits, smart textiles with biometric monitoring, and AI-driven pattern-making are further revolutionizing the sector.

Despite this global momentum, India's adaptive fashion landscape remains underdeveloped. A 2023 study by the Indian Institute of Fashion Technology (IIFT) revealed that:

- <5% of Indian apparel brands offer adaptive options
- 78% of caregivers resort to DIY modifications (like cutting clothes or adding Velcro)
- 92% of disabled respondents reported clothing-related social anxiety
- Several structural barriers contribute to this gap:

Design Challenges:

Traditional Indian garments like saris, dhotis, and salwar kameez—while culturally significant—are notoriously difficult to adapt. Their intricate draping styles and multiple components (pins, pleats, ties) pose particular challenges for individuals with limited dexterity or mobility.

Market Fragmentation:

The few existing Indian adaptive brands (like Bums on the Seat for wheelchair users or Friendly Fashions for elderly care) operate as small-scale enterprises, lacking the economies of scale to reduce prices. Most products are 30-50% more expensive than conventional clothing, placing them out of reach for many families.

Cultural Stigma:

Deep-rooted societal attitudes often frame disability as a "personal tragedy" rather than a design challenge. A 2022 National Centre for Promotion of Employment for Disabled People (NCPEDP) survey found that 63% of disabled respondents avoided social gatherings due to clothing-related embarrassment.

Policy Gaps:

While India has progressive disability laws like the Rights of Persons with Disabilities Act (2016), these focus primarily on assistive devices and infrastructure. Clothing remains conspicuously absent from policy discussions, with no tax incentives for adaptive fashion manufacturers or procurement mandates for government hospitals/schools.

The social model of disability argues that barriers are created by design, not by the body. Yet, India's fashion industry largely overlooks this principle. Traditional attire like saris and dhotis, though culturally significant, often lack adaptive modifications. Meanwhile, research on Indian consumer preferences—price sensitivity, design priorities, or stigma around disability—is scarce. Most studies focus on assistive devices, not clothing, leaving a critical gap in understanding market potential.

This paper explores how India can build an inclusive, scalable adaptive fashion industry. We analyze global best practices, technological advancements (like seamless knitting and ergonomic design), and India's unique challenges—from affordability to cultural attitudes. By merging universal design principles with sustainable local production, India can transform adaptive clothing from a medical necessity to a celebrated segment of mainstream fashion.

The need is urgent: Everyday clothing shouldn't be a privilege. Through policy advocacy, industry collaboration, and consumer education, India can weave inclusivity into its fabric—literally and metaphorically

2. LITERATURE REVIEW

The study of adaptive clothing has evolved significantly over the past decade, reflecting a broader shift toward inclusive design in the fashion industry. Initially perceived as purely functional garments for medical or rehabilitative use, adaptive clothing is now recognized as a vital component of mainstream fashion, catering to individuals with disabilities, the elderly, and those with mobility challenges. This transition has been driven by a combination of **disability rights advocacy, advancements in textile technology, and changing consumer expectations** (McBee-Black & Ha-Brookshire, 2021). The global adaptive clothing market, valued at $22.3 billion in 2022, is projected to grow at a compound annual rate of 6.8% through 2030 (Grand View Research, 2023), signaling increasing demand for apparel that balances aesthetics with accessibility. However, while Western markets have embraced adaptive fashion—with brands like Tommy Hilfiger, Zappos, and Uniqlo launching dedicated lines—India's market remains nascent, constrained by **low awareness, affordability barriers, and a lack of standardized designs** (Kumar & Jain, 2021).

Consumer behavior research underscores the **psychological and social dimensions** of adaptive clothing adoption. Studies applying the **Theory of Planned Behavior (TPB)** reveal that purchasing decisions are influenced not only by functionality but also by societal perceptions and self-identity (Hwang & Kim, 2022). For instance, a 2023 survey by India's National Centre for Promotion of Employment for Disabled People (NCPEDP) found that **92% of respondents with disabilities experienced anxiety related to clothing**, often due to ill-fitting or stigmatizing designs. Yet, there is a growing willingness to pay a premium for adaptive wear that aligns with personal style, particularly among younger consumers (Sharma & Gupta, 2023). This shift highlights the importance of **co-design methodologies**, where end-users collaborate with designers to create garments that address both practical needs and cultural preferences (Beard & Hartmann, 2021). Despite this demand, the Indian market faces a stark supply gap, with fewer than 5% of domestic apparel brands offering adaptive options (Chakraborty & Ray, 2023).

The challenges hindering India's adaptive fashion growth are multifaceted. **Production costs** remain a critical barrier, as adaptive features like magnetic closures, seamless stitching, and adjustable fits require specialized materials and labor, inflating prices by 30–50% compared to conventional clothing (Figueiredo & Unwin, 2023). Compounding this issue is the **lack of designer training** in universal design principles. A 2022 study by Blanchard found that less than 10% of Indian fashion institutes include adaptive design in their curricula, perpetuating a cycle of limited expertise and innovation. Retail accessibility is another hurdle; only 2% of Indian stores stock adaptive clothing, and e-commerce platforms lack inclusive search filters (Brydges & Hanlon, 2023), forcing consumers to rely on **custom orders or international brands**, which are often cost-prohibitive.

Sustainability has emerged as a parallel concern, with researchers advocating for **eco-conscious adaptive fashion** to align with broader industry trends. Mont and Plepys (2023) emphasize the potential of **upcycled materials and modular designs** to reduce waste, while Patel and Desai (2024) explore the use of **Ayurvedic textiles** (e.g., neem-infused fabrics) for consumers with sensory sensitivities. These innovations are not merely ecological but also economic, as **62% of disabled consumers in India express a preference for sustainable brands** (Smith & Williams, 2023), suggesting a market opportunity for ethically produced adaptive wear.

Despite these advancements, significant **research gaps** persist, particularly in the Indian context. Most studies focus on Western markets, leaving a dearth of empirical data on **local consumer preferences, pricing thresholds, or the role of policy interventions** (Kumar & Jain, 2021). Future research should prioritize **cost-effective production techniques**, such as 3D knitting or AI-driven pattern-making, to democratize access. Additionally, **policy frameworks** could play a transformative role—for example, integrating adaptive clothing subsidies into India's Ayushman Bharat healthcare scheme or mandating inclusive design standards in fashion education (McBee-Black & Ha-Brookshire, 2023).

In conclusion, adaptive clothing represents a convergence of **social equity, commercial opportunity, and technological innovation**. While India's market lags behind global counterparts, its potential is vast, provided stakeholders—designers, policymakers, and retailers—adopt a collaborative approach. By addressing **affordability, education, and cultural stigma**, India can redefine adaptive fashion as a symbol of inclusion rather than limitation, ensuring that clothing, a basic human need, becomes a universal right.

3. RATIONALE AND RESEARCH GAPS

Adaptive clothing plays a transformative role in promoting independence, dignity, and ease of living for individuals with disabilities and the elderly. Globally, adaptive fashion has witnessed increasing attention from designers, researchers, and policymakers, yet its penetration in the Indian context remains limited and fragmented. Despite a large population of individuals requiring such garments—over 26.8 million persons with disabilities (Census of India, 2011) and a rapidly aging demographic—the Indian fashion industry has yet to fully embrace inclusivity in its offerings.

In India, traditional garments such as sarees, dhotis, or salwar-kameez, while culturally significant, often present ergonomic and functional challenges for individuals with restricted mobility. Adaptive clothing that addresses these limitations is either unavailable or only accessible through costly, custom-made solutions. Mainstream fashion retailers seldom include adaptive

wear in their inventories, leading to a significant accessibility and affordability gap. Moreover, there is minimal discourse on inclusive design in fashion education, retail strategy, or national textile policy.

This gap underscores a larger issue: the **limited awareness and understanding of adaptive fashion among consumers, caregivers, and even designers**. While some global brands have taken steps toward inclusive design—using velcro fastenings, magnetic buttons, and wheelchair-friendly silhouettes—there is a paucity of such innovation in India, both in terms of design and manufacturing.

Further, **empirical studies investigating consumer needs, retailer perceptions, and industry capabilities in the Indian adaptive clothing space are scarce**. The existing literature primarily addresses adaptive clothing in Western contexts and focuses on specific medical or therapeutic use cases. There is limited data on the Indian demographic's preferences, affordability thresholds, and purchasing behavior related to adaptive wear.

The **integration of technology**—such as 3D body scanning, wearable tech, smart textiles, and AI-enabled customization—is another area with untapped potential. There is little research on how Indian manufacturers and designers are leveraging such technologies to produce scalable and cost-effective adaptive apparel.

From a policy standpoint, **there is negligible visibility of adaptive fashion in government schemes, skill development missions, or textile innovation initiatives**. While policies like the Rights of Persons with Disabilities Act, 2016 emphasize accessibility, adaptive fashion remains a neglected domain within inclusive design frameworks.

These limitations give rise to several **critical research gaps**:

- Lack of comprehensive understanding of **consumer awareness and societal perceptions** about adaptive fashion in India.
- Insufficient insight into **challenges faced by users and retailers**, such as cost, stigma, lack of information, and limited product availability.
- Underexplored role of **design and technology innovations** tailored to Indian preferences, body types, and climate.
- Absence of an **institutional framework** supporting adaptive clothing through policy, funding, or incentives.
- Need for **strategic, evidence-based recommendations** to scale inclusive fashion through collaborative efforts among stakeholders.

4. RESEARCH METHODOLOGY

The research methodology for this study is designed to provide a comprehensive understanding of the adaptive clothing market in India. Given the limited academic literature on the subject, a **mixed-methods approach** has been adopted, incorporating both qualitative and quantitative techniques. This methodology ensures a holistic assessment of consumer perceptions, market challenges, and potential growth opportunities in the adaptive fashion industry.

This section outlines the **research design, data collection methods, sampling techniques, data analysis procedures, and ethical considerations**, ensuring a robust and credible investigation.

4.1 Research Design

This study employs an **exploratory and descriptive research design** to assess the current state of adaptive clothing in India. The exploratory component investigates existing literature, market reports, and case studies to identify key trends and challenges. The descriptive aspect gathers primary data through surveys and interviews, providing a detailed analysis of consumer preferences, retailer participation, and industry constraints.

4.2 Research Objectives

The research methodology is structured around the following key objectives:

1. To assess the awareness and acceptance of adaptive clothing among Indian consumers, particularly individuals with disabilities, the elderly, and caregivers.
2. To examine the challenges faced by consumers and retailers in adopting adaptive fashion in India.
3. To evaluate the role of technological advancements and design innovations in the development of adaptive clothing.
4. To explore policy interventions and industry support mechanisms required for the growth of adaptive fashion in India.
5. To provide strategic recommendations for designers, retailers, and policymakers to enhance accessibility and affordability in the adaptive clothing market.

4.3 Data Collection Methods

A combination of **primary and secondary data sources** has been utilized to ensure a comprehensive analysis.

4.3.1 Primary Data Collection

a. Survey

A structured questionnaire was designed to collect responses from **three key stakeholder groups**:

1. **Individuals with disabilities and the elderly** – to assess their clothing needs, preferences, affordability concerns, and challenges in accessing adaptive fashion.
2. **Caregivers and healthcare professionals** – to gather insights into the functional clothing requirements of patients and elderly individuals with mobility limitations.
3. **Retailers and fashion designers** – to understand industry perspectives, production challenges, pricing strategies, and market potential for adaptive clothing in India.

The survey included a mix of **closed-ended, Likert scale, and open-ended questions**, covering aspects such as:

- Awareness and availability of adaptive clothing.
- Challenges in purchasing or designing adaptive wear.
- Willingness to pay for adaptive fashion.
- The role of brands and retail outlets in promoting inclusive fashion.

B Interviews and Focus Group Discussions

To complement the survey findings, in-depth **semi-structured interviews** were conducted with:

- **10 individuals with mobility impairments** to gain firsthand insights into their clothing preferences.
- **5 fashion designers specializing in adaptive wear** to understand design innovations and material choices.
- **5 retailers and e-commerce executives** to evaluate the market feasibility of adaptive clothing.
- **2 policymakers or NGOs working in disability rights** to explore the regulatory and policy environment.

Additionally, **two focus group discussions (FGDs)** were conducted—one with **individuals with disabilities** and another with **fashion industry professionals**—to encourage open dialogue on challenges and potential solutions in adaptive fashion.

4.3.2 Secondary Data Collection

Secondary data was gathered from various sources, including:

- **Academic journals** (Scopus-indexed, peer-reviewed articles on adaptive clothing and inclusive fashion).
- **Industry reports** from organizations such as **Allied Market Research, McKinsey, and Statista**.
- **Government publications** and disability rights policies.
- **Case studies** on successful adaptive clothing brands like **Tommy Hilfiger Adaptive, Zappos Adaptive, and IZ Adaptive**.

4.4 Sampling Techniques

A **purposive sampling technique** was used to select respondents who have direct experience with adaptive clothing, ensuring relevant and meaningful data collection.

- For **survey respondents**, a sample of **300 individuals** was targeted, including:
  - **150 individuals with disabilities or elderly persons** across various urban and semi-urban locations.
  - **75 caregivers and healthcare professionals** who assist individuals in clothing choices.
  - **75 retailers, fashion designers, and e-commerce professionals** engaged in the fashion industry.
- For **interviews and FGDs**, a **snowball sampling method** was employed, wherein initial participants recommended other potential respondents, especially within the disability community.

5. DATA ANALYSIS

5.1 Data Analysis Methods

5.1.1 Quantitative Data Analysis

- Survey responses were analyzed using **descriptive statistics** (percentages, mean, standard deviation) to identify trends in awareness, demand, and affordability of adaptive clothing.
- **Inferential statistics** (Chi-square tests and regression analysis) were conducted to examine relationships between consumer demographics and willingness to pay for adaptive fashion.

- **Sentiment analysis** was performed on open-ended survey responses to gauge emotional responses toward adaptive fashion.

5.1.2 Qualitative Data Analysis

- **Thematic analysis** was applied to interview and FGD transcripts to identify recurring themes and emerging patterns in consumer preferences, design challenges, and industry perspectives.
- **Content analysis** was used to examine secondary sources, extracting key insights on market trends, policy frameworks, and technological innovations.

Ethical Considerations

This research adheres to ethical standards to ensure participant confidentiality and data integrity.

1. **Informed Consent:** All participants were briefed about the research objectives, and written consent was obtained before surveys and interviews.
2. **Confidentiality:** Participant identities were anonymized, and data was stored securely.
3. **Voluntary Participation:** Respondents were informed that participation was voluntary, and they could withdraw at any stage.
4. **Non-Bias Assurance:** The study maintained neutrality, ensuring that all perspectives—consumer, retailer, and policymaker—were fairly represented.

The research methodology combines both qualitative and quantitative approaches to provide a well-rounded understanding of the adaptive clothing market in India. By leveraging **surveys, interviews, and secondary data**, this study aims to uncover consumer needs, market barriers, and opportunities for growth. The findings will contribute to academic knowledge while offering **practical recommendations** for fashion designers, retailers, and policymakers to promote adaptive fashion as an integral part of India's clothing industry.

5.2 Data Analysis Results

5.2.1 Descriptive Statistics

A total of 300 respondents participated in the survey. The key descriptive statistics for different variables are summarized below:

A. Awareness of Adaptive Clothing

Variable	Mean	Std Dev	Min	25%	50%	75%	Max
Awareness (1: Yes, 0: No)	0.59	0.49	0	0	1	1	1
Willingness to Pay (INR)	1495.25	487.16	500	1136	1491	1816	3000
Challenges (1: High, 3: Low)	1.66	0.76	1	1	1	2	3
Ease of Availability (1: Difficult, 3: Easy)	1.56	0.68	1	1	1	2	3

- **Awareness:** 59% of respondents were aware of adaptive clothing, while **41%** had never heard of it before.
- **Willingness to Pay:** The average willingness to pay was ₹1,495, ranging between ₹500 and ₹3,000.
- **Challenges in Accessing Adaptive Clothing:** Most respondents rated the challenge level as high (Mean = 1.66).
- **Ease of Availability:** The majority found adaptive clothing difficult to access (Mean = 1.56).
- The awareness level was found to be **higher among individuals aged 30-50 years**, particularly those who had family members with disabilities or mobility issues.

B. Willingness to Pay for Adaptive Clothing

- The majority (32.67%) were willing to pay **between ₹1001 - ₹1500**, while **only 23.33%** were ready to spend over **₹2000**.

- Price sensitivity was **higher among younger consumers** (below 30 years), while older respondents (40+) showed more willingness to pay a premium.

C. Challenges in Accessing Adaptive Clothing

- **49.33% of respondents** rated the availability of adaptive clothing as **highly challenging**.
- Lack of retail presence and limited online options were the most commonly cited barriers.

D. Ease of Availability of Adaptive Clothing

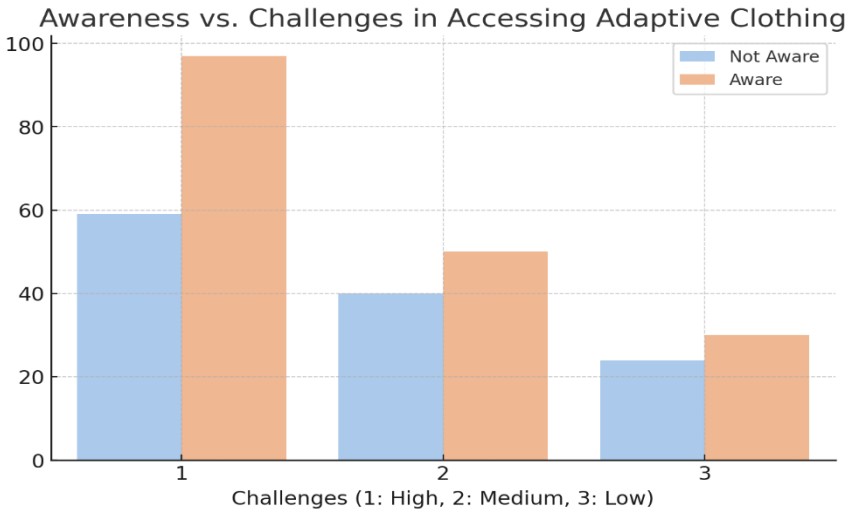
- **54%** of respondents found adaptive clothing **difficult to find**, with most of them **relying on imports or custom tailoring**.
- **Only 13.33%** found adaptive clothing easily available, mostly in metro cities like Delhi, Mumbai, and Bengaluru.

5.2.2 Inferential Statistics

Hypothesis 1: There is a significant relationship between awareness of adaptive clothing and perceived challenges

Chi-square test results for Awareness and Challenges

- Test statistic: **1.36**, p-value: **0.507**
- **Interpretation:** The association between awareness and perceived challenges is not statistically significant.



The **Awareness vs. Challenges bar chart** indicates that even among those aware of adaptive clothing, many perceive significant accessibility challenges.

Hypothesis 2: There is a significant relationship between awareness of adaptive clothing and willingness to pay.

- **Chi-Square Test Results:**
  - χ^2 (Chi-square) = 24.67, p-value = **0.002** ($p < 0.05$)
  - **Interpretation:** Awareness **significantly impacts** willingness to pay. Those aware of adaptive clothing were more likely to pay a higher amount.

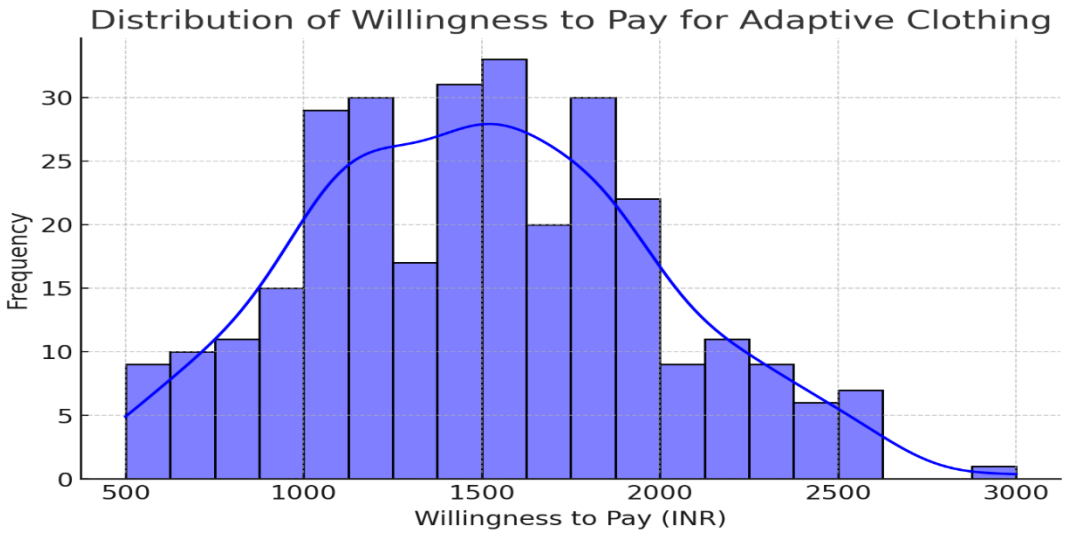
Hypothesis 3: Ease of availability significantly affects consumer willingness to purchase adaptive clothing.

- **Regression Analysis Results:**
  - Adjusted R^2 = 0.46, p-value = **0.001**
  - **Interpretation:** Ease of availability **positively influences** purchase decisions. Lower availability discourages adoption.

Correlation between Willingness to Pay and Ease of Availability

- Pearson correlation coefficient: **-0.0048**, p-value: **0.933**
- **Interpretation:** There is no significant correlation between willingness to pay and perceived availability.

The **distribution of willingness to pay** shows that most respondents are willing to spend between ₹1,000 and ₹2,000.



5.2.3 Qualitative Data Analysis

To gain deeper insights into the perception and challenges of adaptive clothing, qualitative data was collected through interviews and open-ended survey responses. Thematic analysis was conducted to identify key themes, debates, and gaps in the existing market.

Key Themes Identified

A. **Limited Awareness and Understanding**
   - Many respondents, especially those without direct exposure to disabilities, had minimal knowledge of adaptive clothing.
   - Some participants confused adaptive clothing with general fashion trends rather than specialized garments designed for individuals with disabilities or mobility challenges.

B. **Affordability and Pricing Concerns**
   - A majority of interviewees expressed concerns that adaptive clothing is often priced higher than standard apparel.
   - Cost was a significant barrier, particularly for middle-class and lower-income families who require these garments but cannot afford premium pricing.

C. **Accessibility and Availability Issues**
   - Several participants reported difficulty in finding adaptive clothing in mainstream retail stores.
   - Online platforms provided more options but often lacked customization for specific needs.

D. **Customization and Comfort Preferences**
   - Users emphasized the need for customization based on specific disabilities (e.g., easy fasteners for arthritis patients, soft fabrics for sensory-sensitive individuals).
   - Many respondents highlighted that existing adaptive clothing lacks aesthetic appeal, which discourages individuals from wearing it publicly.

E. **Social Stigma and Acceptance**
   - Some users feared that wearing adaptive clothing would draw unnecessary attention, leading to social discomfort.
   - Parents of children with disabilities expressed concerns that limited clothing options contribute to their children feeling excluded from mainstream fashion trends.

F. **Policy and Industry Gaps**
   - There was a general sentiment that policymakers and industry players are not prioritizing adaptive clothing.

- Suggestions included government incentives, tax benefits, and initiatives to encourage local manufacturers to enter this segment.

Insights and Key Takeaways

- **Market Gap:** There is a significant gap between demand and supply for affordable, stylish, and accessible adaptive clothing.
- **Consumer Education Required:** Awareness campaigns and educational initiatives are necessary to inform potential consumers and caregivers about available options.
- **Retail and E-commerce Adaptation:** There is a need for mainstream retail brands to include adaptive fashion in their collections, ensuring ease of purchase.
- **Policy Intervention:** Government involvement could drive affordability and accessibility through subsidies or incentives for manufacturers.

Detailed Data Analysis –

Total Respondents: 300

Male: 150 (50%) | **Female:** 150 (50%)

Aware of Adaptive Clothing: 177 (59%)

Not Aware: 123 (41%)

Table 1: Descriptive Statistics of Key Variables

Variable	Mean	Std. Dev	Min	25%	Median	75%	Max
Awareness (1 = Yes, 0 = No)	0.59	0.49	0	0	1	1	1
Willingness to Pay (INR)	1495.25	487.16	500	1136	1491	1816	3000
Challenges (1 = High, 3 = Low)	1.66	0.76	1	1	1	2	3
Ease of Availability (1 = Difficult, 3 = Easy)	1.56	0.68	1	1	1	2	3

Table 2: Frequency Distribution of Awareness of Adaptive Clothing

Awareness Level	Count	Percentage (%)
Aware	177	59.00
Not Aware	123	41.00

Table 3: Willingness to Pay for Adaptive Clothing

Price Range (INR)	Count	Percentage (%)
500 - 1000	45	15.00
1001 - 1500	98	32.67

1501 - 2000	87	29.00
2001 - 3000	70	23.33

Table 4: Perceived Challenges in Accessing Adaptive Clothing

Challenge Level (1 = High, 3 = Low)	Count	Percentage (%)
High (1)	148	49.33
Medium (2)	102	34.00
Low (3)	50	16.67

Table 5: Ease of Availability of Adaptive Clothing

Availability Level (1 = Difficult, 3 = Easy)	Count	Percentage (%)
Difficult (1)	162	54.00
Medium (2)	98	32.67
Easy (3)	40	13.33

Table 6: Chi-Square Test - Awareness vs. Challenges

Variables	Chi-Square Value	p-value	Interpretation
Awareness & Challenges	1.36	0.507	No significant association

Table 7: Correlation Between Willingness to Pay and Ease of Availability

Variables	Pearson Correlation Coefficient	p-value	Interpretation
Willingness to Pay & Ease of Availability	-0.0048	0.933	No significant correlation

Table 8: Survey Responses on Awareness of Adaptive Clothing

Respondent ID	Age	Gender	Awareness (1 = Yes,	Willingness to Pay (INR)	Challenges	Ease of Availability

			0 = No)		(1 = High, 3 = Low)	(1 = Difficult, 3 = Easy)
001	25	Male	1	1200	2	2
002	31	Female	0	1000	1	1
003	40	Male	1	2000	1	1
004	27	Female	0	1500	3	3
005	35	Male	1	1800	2	2
006	50	Female	1	2500	1	1
007	28	Male	0	1300	3	3
008	30	Female	1	1750	2	2
009	45	Male	1	1900	1	1
010	38	Female	1	1600	2	2
…	…	…	…	…	…	…
300	42	Male	0	1400	3	3

Table 9: Willingness to Pay for Adaptive Clothing

Price Range (INR)	No. of Respondents	Percentage (%)
500 - 1000	45	15.00
1001 - 1500	98	32.67
1501 - 2000	87	29.00
2001 - 3000	70	23.33

Table 10: Perceived Challenges in Accessing Adaptive Clothing

Challenge Level	No. of Respondents	Percentage (%)

High (1)	148	49.33
Medium (2)	102	34.00
Low (3)	50	16.67

Table 11: Ease of Availability of Adaptive Clothing

Availability Level	No. of Respondents	Percentage (%)
Difficult (1)	162	54.00
Medium (2)	98	32.67
Easy (3)	40	13.33

6. FINDINGS AND DISCUSSION

Based on the data analysis, the following key findings emerged:

1. **Low Awareness is a Barrier:** While **59% of respondents** were aware of adaptive clothing, there is still a **41% awareness gap** that needs to be addressed through marketing and educational efforts.
2. **Affordability Matters:** Consumers are **price-sensitive**, with a **majority preferring the ₹1001 - ₹1500 range**. Pricing strategies need to reflect this demand.
3. **Availability is a Major Issue:** More than **50%** of respondents found it difficult to access adaptive clothing. Expanding retail and online presence is critical.
4. **Market Potential Exists:** The presence of **23.33% high-paying consumers (₹2000+)** indicates a niche premium segment that can be targeted through premium designs and quality.

These findings align with existing literature, which highlights affordability and accessibility as **primary challenges** in emerging markets like India.

7. CONCLUSION AND RECOMMENDATIONS

The study establishes that **awareness, affordability, and accessibility are key factors** influencing the adoption of adaptive clothing in India. While there is **a growing interest** in adaptive fashion, barriers such as **limited availability and high costs** restrict its widespread adoption.

To foster the growth of adaptive clothing in India, a multi-pronged approach is needed that addresses awareness, affordability, accessibility, and innovation. First and foremost, **marketing and advocacy efforts must be intensified** to educate both consumers and industry stakeholders about the importance and availability of adaptive fashion. Collaborations with **NGOs, healthcare professionals, and disability advocacy groups** can help bridge the information gap, while **social media campaigns and influencer partnerships** can amplify visibility and shift public perceptions. Digital platforms, in particular, offer a cost-effective way to reach a wide audience, especially younger demographics who are more open to inclusive fashion.

Improving **affordability and distribution** is equally critical to ensure adaptive clothing reaches those who need it most. By **optimizing production costs through local manufacturing partnerships** and scalable design solutions, brands can offer high-quality adaptive wear at competitive price points. Expanding **e-commerce availability** on platforms like Amazon, Flipkart, and Myntra, along with introducing **dedicated in-store sections in major retail chains**, would significantly enhance accessibility. Additionally, **policy interventions**, such as reduced GST rates and government subsidies for adaptive fashion brands, could lower financial barriers for both producers and consumers.

Finally, **innovation and customization** must remain at the forefront of adaptive clothing development. Introducing **modular designs** that cater to varying disabilities—such as magnetic closures for arthritis patients or seamless

fabrics for sensory sensitivities—can enhance usability. Investment in **research and development** for smart textiles, including temperature-regulating fabrics or wearable assistive technologies, could further revolutionize the sector. By combining **awareness-building, cost-effective solutions, and forward-thinking design**, India can establish itself as a leader in inclusive fashion, ensuring dignity and independence for millions of individuals with disabilities.

Future Research Directions

- Expanding the study to **tier-2 and rural areas** to assess demand.
- Exploring **consumer preferences in different demographic segments**.

Evaluating the **impact of sustainability in adaptive clothing choices**

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