

## Adaptive Clothing Goes Mainstream: An Evaluation of U.S. Retailers' Merchandising Strategies

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### Background

With society's increasing attention to people with disabilities (PWD), a growing number of retailers have launched adaptive clothing that addresses the physical needs of PWD and supports their social and psychological well-being (Hall, 2019; McBee-Black & Ha-Brookshire, 2020). Adaptive clothing is also an emerging interdisciplinary research topic; for example, scholars have explored adaptive clothing's unique design and product development process and consumers' purchasing behaviors for such products (Kabel et al., 2016; Lobo et al., 2019; Cakmak et al., 2022). However, as a critical research gap, it remains primarily unknown what adaptive clothing is typically available in the mainstream retail market, as well as retailers' commonly-adopted product assortment and pricing strategies.

**This study aims to explore retailers' merchandising strategies for adaptive clothing in the United States.** Specifically, by leveraging EDITED, a big data tool for the fashion industry, the study examined U.S. retailers' product assortment, inventory management, and pricing practices for adaptive clothing products in the mainstream market compared with nonadaptive ones (EDITED, 2023). The study's findings generate critical new knowledge about the business aspects of adaptive clothing by adding a valuable retailers' perspective.

### Literature review

Theoretically, U.S. retailers' product assortment for adaptive clothing would be more limited than nonadaptive ones, and their pricing strategies would be uncertain. On one hand, consistent with Maslow's hierarchy theory, PWD look to purchase adaptive clothing that can accommodate their physical functional needs (Carroll & Gross, 2010). However, PWD also want to purchase adaptive clothing that can support their everyday social and professional lives (Chae, 2022; Fung & Hui, 2022). Therefore, balancing functional requirements with aesthetics presents a particular challenge in designing adaptive clothing and expanding its supply, especially when retailers struggle with insufficient design capabilities and resources (Bairagia & Bhuyan, 2021). On the other hand, adaptive clothing is typically more costly to design and produce due to extra design time, labor costs, and specialized textile materials and accessories required (Keenan et al. 2021). However, PWD generally have a higher price sensitivity for apparel due to their often limited income and financial status (DOL, 2023).

### Methods

The study used two datasets collected from EDITED to explore U.S. retailers' merchandising strategies for adaptive clothing. First, 2,000 Stock Keeping Units (SKUs) of "adaptive clothing" were randomly selected by EDITED from millions of products available in the U.S. retail market from September 2018 to December 2022. These 2,000 samples explicitly mentioned "adaptive" and "disability" in the product description, which aligned with the study's definition for such clothing. Then, using the same method, another 2,000 SKUs of "nonadaptive clothing" were randomly selected by EDITED, i.e., clothing without the keywords "adaptive" and "disability" in its product description. The four-year period covered the most updated data from EDITED and was long enough to reveal a relatively stable pattern. Each clothing item included a detailed product description, market segments, and pricing information (EDITED, 2023).

Since most data used in the study was categorical, logistic regression was adopted to assess the quantitative relationship between variables (Field, 2013). The model used *Adaptive* as the dependent variable, measuring whether a particular item in the samples was adaptive clothing (i.e., adaptive clothing=1; nonadaptive clothing=0). The model included five sets of independent variables:

- *Pattern* (if the clothing item adopted the plan pattern, i.e., not using graphics, stripes, spots, checks, floral, or other patterns=1; otherwise =0).
- Six variables measuring various product categories: *Tops* (Yes=1; otherwise=0), *Bottoms* (Yes=1; otherwise=0), *Underwear* (Yes=1; otherwise=0), *Dresses* (Yes =1; otherwise=0), *Outerwear & Suits* (Yes=1; otherwise=0), and *Swimwear* (Yes=1; otherwise=0).
- *SKU* refers to the number of Stock Keeping Units available for the clothing item (e.g., *SKU*=5 means a clothing item has five different sizes or colors).
- *Age* (if the clothing item was for adults=1; childrenswear=0).
- Two variables measuring pricing strategy: *Price* (if the clothing item was priced higher than the market average=1; otherwise=0). *Market* (If the apparel item fell under the luxury or premium market segment=1; mass or value market segment=0).

Further, the study adopted EDITED's classification for a clothing item's design pattern (i.e., variable *Pattern*), product category (i.e., variables *Tops*, *Bottoms*, *Underwear*, *Dresses*, *Outerwear & Suits*, and *Swimwear*), age (i.e., *Age*) and market segment (i.e., variable *Market*).

## Results and Discussions

The logistic regression was statistically significant at the 99% confidence level (likelihood ratio (L.R.) statistics =5373.3,  $p < .001$ ). Specifically: **First**, when holding other variables constant, adaptive clothing was 145.3% more likely (Wald  $X^2=27.1$ ,  $p < .001$ ) to be in plain style than nonadaptive. The result confirmed that U.S. retailers prioritized adaptive clothing's functionality over its "fashionability." **Second**, adaptive clothing in specific categories was less likely to be available in the mainstream U.S. retail market, including 43.8% less likely for *Dresses* (Wald  $X^2=18.9$ ,  $p < .001$ ), 52.8% less likely for *Outerwear & Suits* (Wald  $X^2=12.2$ ,  $p < .001$ ), and 34.6% less likely for *Underwear* (Wald  $X^2=17.6$ ,  $p < .001$ ). **Third**, when holding other variables

constant, adaptive clothing was 77.9% less likely (Wald  $X^2=6.9$ ,  $p<.01$ ) to be for adults. Instead, U.S. retailers seemed to treat childrenswear as a priority for adaptive clothing. **Fourth**, when holding other factors constant, U.S. retailers were 144.8% more likely (Wald  $X^2=19.4$ ,  $p<.001$ ) to price adaptive clothing higher than nonadaptive ones in the same product category.

### Implications and future research agenda

The study's findings provided critical new knowledge about U.S. retailers' merchandising strategies for adaptive clothing and have several important implications. **First**, the results revealed the significant gaps in the availability of adaptive clothing in the U.S. retail market, such as dresses, outerwear & suits, and underwear, highlighting the need for retailers to expand their product offerings. **Second**, the findings suggest more could be done to make adaptive clothing look less "boring" and more "fashionable" to better serve PWD's aesthetic needs for such clothing. **Third**, the results indicated the need to make adaptive clothing more affordable, given the limited purchasing power of PWD, particularly adults (DOL, 2023).

Case studies and in-depth interviews can be conducted further to gain additional insights into U.S. retailers' merchandising strategies for adaptive clothing and related affecting factors. It would also be meaningful to explore retailers' product assortment and pricing strategies in other markets with a large PWD population, such as Asia and Europe.

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