

Feeling Excluded? Digital Technology Innovation in Fashion Retail

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Introduction. The fashion retail business has experienced extensive digital technology innovation. To compete with others and continue to have a profitable business, fashion retailers have increased their investments in technology adoption. The investment amount is expected to reach up to 3.5% of their total revenue by the year 2030 (Amed et al., 2022). While technology has been incorporated in the fashion industry at the supply chain level to enhance transparency and efficiency (Jestratijevic et al., 2022), it has also been embraced at the store level extensively (including online, mobile, and physical stores) where consumers can interact with the retailer directly (Santalova et al., 2019). For instance, retailers have provided connected services through in-store apps, enhanced services by acquiring experiential technologies, such as augmented reality (AR) or virtual reality (VR), and personalized services through AI-based data analysis (Amed et al., 2022). As fashion consumers have returned to physical stores with an expectation of a pre-pandemic shopping experience with improved efficiency, physical stores are expected to drive sales for most fashion companies (Meyersohn, 2022). As with this trend, many researchers have focused on the benefits of technology that consumers can experience when shopping (Grewal et al., 2020). However, there is a lack of understanding of the technological barriers or challenges consumers might encounter in the store. Thus, this study aims to understand fashion consumers' psychological mechanisms that hinder their shopping attitudes and intentions in technology-oriented physical stores, primarily focusing on the three main predictors — digital adaptability (DA), digital perceived exclusion (DE), and technology anxiety (AX).

Literature Review and Hypotheses. This study adopts the Theory of Planned Behavior (TPB; Ajzen, 1991) as a guiding framework and integrates it with the three predictors in the consumers' minds that influence their technology-oriented shopping behavior. According to TPB, consumer attitude (ATT) refers to a person's favor in performing the behavior. It is influenced by behavioral beliefs along with various factors, including personal, situational, and external factors (e.g., physical and social environment and exposure to information; Goraya et al., 2020), leading to the intention to perform the target behavior (i.e., shopping intention, SI). This study extends TPB by adding three antecedents (i.e., DA, DE, and AX) of attitudes to the model to capture consumer challenges in shopping in the technology-oriented fashion store. Digital adaptability (DA) refers to consumers' perception of their technological competence, including technology learning styles (Puckett, 2020). It has been applied in recent consumer studies and was confirmed to be a significant determinant of technology-engaged shopping behavior with other variables (e.g., technology readiness or perceived ease of use; Thirupathi et al., 2022). Perceived digital exclusion (DE) originated from social psychology and has been adopted in digital inequality studies to capture individuals' subjective perception of digital technology resources and environment (Runciman, 1966; Helsper, 2017). A lack of digital technology resources was

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confirmed to decrease individuals' attitudes toward using technology (Huterska et al., 2018). Digital technology anxiety (AX) is defined as a negative emotion associated with unfavorable results or poor technological achievements (Wilson, 2022). It has been applied in various contexts, such as self-checkout stores, mobile shopping, etc. (Jalil & Yeik, 2019). By applying the previous findings of each construct to the technology-oriented fashion store context, the following hypotheses are proposed.

H1 Digital Adaptability (DA) will positively affect attitudes (ATT) towards shopping in the digital technology-oriented fashion store.

H2 Perceived Digital Exclusion (DE) will negatively affect attitudes (ATT) towards shopping in the digital technology-oriented fashion store.

H3 Technology Anxiety (AX) will negatively affect attitudes (ATT) towards shopping in the digital technology-oriented fashion store.

H4 ATT will positively affect Shopping Intention (SI) in the digital technology-oriented fashion store.

H5 (a) DA, (b) DE, and (c) AX will directly affect SI.

H6 (a) DA, (b) DE, and (c) AX will indirectly affect SI.

Methods. The survey participants were recruited through MTurk, and a screening question was used to verify they were 18 years old or above. A total of 195 usable responses were collected, excluding invalid or incomplete answers. 51% of the total participants were male, 75 % were Caucasians, 70% were in the age range between 25 and 44, 63% obtained a college-level degree, and 85% were living in urban cities. The survey questionnaire was constructed by adapting measurement scales from previous studies except for DE (Nysveen et al., 2005; Puckett, 2020; Wilson et al., 2022). DE was modified from the original items considering the context of this study (Callan et al., 2008; Helsper, 2017). Survey items were measured on a 7-point Likert scale. Path analysis was performed based on a partial least squares structural equation modeling (PLS-SEM) for testing the proposed hypotheses.

Results. As for the measurement model, convergent and discriminant validity were checked. The composite reliability (CR) for all constructs was above 0.87, Cronbach's Alphas were above 0.77, and factor loadings were above 0.70. The discriminant validity was checked using the Fornell-Larcker Criterion. The average variance extracted (AVE) of all constructs was above 0.50, higher than the threshold, and the square root of the AVE of each construct was higher than its correlation with another construct. Based on the measurement model results, path analysis was conducted to check how each construct relates to another. PLS-SEM results indicated that digital adaptability (DA) positively influenced consumers' attitudes (ATT) toward shopping in the digital technology-oriented fashion store ($H1: \beta = 0.64, p < .001$), confirming H1. Digital perceived exclusion (DE) negatively affected consumers' attitudes (ATT) toward shopping in the store ($H2: \beta = -0.20, p < .05$), accepting H2. However, anxiety (AX) did not have a statistically significant effect on ATT, rejecting H3. ATT positively influenced shopping intentions (SI) in the technology-oriented fashion store ($H4: \beta = 0.40, p < .001$), confirming the acceptance of H4.

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Direct paths from three independent variables (DA, DE, and AX) to SI were also examined. DA had a positive direct effect on SI (H5a: $\beta = 0.40$, $p < .001$), and AX had a negative direct effect on SI (H5c: $\beta = -0.22$, $p < .05$). However, DE did not have a statistically significant direct effect on SI; thus, H5 was partially accepted. As for indirect path analysis, DA indirectly affected SI through ATT (H6a: $\beta = 0.27$, $p < .001$). However, there were no statistically significant indirect effects of DE and AX on SI in this sample. Thus, H6 was partially accepted.

Discussion and Conclusion. This study provides a framework that describes consumers' psychological factors that lead to or hinder their attitudes and shopping intentions in technology-oriented fashion stores. Further studies can be performed based on this model to understand consumers' barriers and challenges in digital technology retail settings. It also gives fashion companies insight, as it provides an inclusive perspective to serve their customers. Retailers might consider implementing inclusive services/strategies (e.g., sales assistant support, providing easy instructions, tech help desk, etc.) to support their customers in accessing necessary resources and alleviating their anxiety using technology for shopping.

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