## Consumer Adoption of Virtual Fitting Rooms(VFRs): A Perspective of Past Experience, Fashion Involvement, and Shopping Involvement

Hanna Lee, University of South Carolina
Yingjiao Xu, North Carolina State University
Anne Porterfield, North Carolina State University

Keywords: Virtual fitting room, Prior experience, Involvement, Perceptions

**Introduction** In line with the growing popularity of e-commerce since the beginning of the Covid-19 pandemic, Virtual fitting rooms (VFRs) are increasingly used in online fashion store to combat the key problem of online apparel shopping – lack of try-on experience (Dopson, 2021). While consumers are increasingly getting chances to and starting to try out VFRs, it is not yet widely adopted by consumers (Berthiaume, 2021). To uncover the reasons behind the slow adoption of VFRs, it is important to fully investigate the influential factors that explain consumers' varying VFR perceptions and adoption intention. However, research fully investigating the influences of external factors, such as individual differences in experience/skills and personal traits, is limited despite its power to explain varying consumers' perceptions and experiences (McKechnie et al., 2006). As VFRs are used for fashion shopping and currently in the process of consumer adoption, it is critical to take into account the users' product category (fashion) involvement, intrinsic (shopping) involvement, and past experience with VFRs, which were found to play a profound role in consumers' online fashion shopping and technology acceptance behaviors (Kim et al., 2007; McKechnie et al., 2006). Thus, this study aims to investigate the influences of consumers' past experience, fashion involvement, and shopping involvement on their perceptions and subsequent adoption intention toward VFRs.

**Literature Review** According to the Technology Acceptance Model (TAM) (Davis, 1989; Davis et al., 1992), consumers' decision to adopt a technology is predicted by their perceptions of values offered by a technology. With VFRs, consumers can have more product-related information in the pre-purchase stage (Merle et al., 2012). VFRs can also offer advanced interactive features (e.g., mix-and-match, social sharing), enabling consumers to have enjoyable and social experiences (Zhang et al., 2019). Consistently, several researchers identified functional, experiential, and social values, as important in understanding consumers' adoption of VFRs (Lee et al., 2022; Zhang et al., 2019). Functional values encompass perceived usefulness, ease-of-use, and functional concerns, whereas experiential value refers to enjoyment, control, and curiosity (Lee et al., 2022; Lee et al., 2020). Social values refer to social benefits offered by VFRs through meeting the social/expressive needs (Lee, 2021). The TAM also suggests that consumers' perceptions can be affected by external factors (Legris et al., 2003). Among several external factors, researchers found past experience and involvement to be particularly important to examine when a novel technology is used for online shopping/retailing purposes (McKechnie
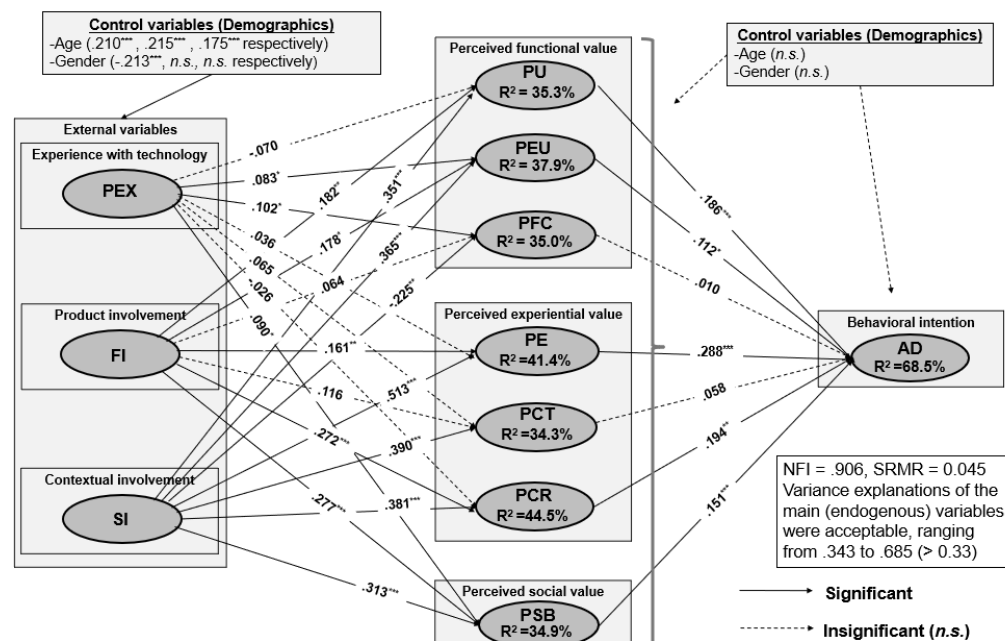
Figure 1. Research Model & Results

to understand the nature of fashion shopping technology, perceiving less risks associated with it (Lee, 2021; McKechnie et al., 2006). Similarly, we expect to see differences in consumers' VFR perceptions to be influenced by past experience, associated with individual's levels of knowledges (McKechnie et al., 2006).

**Methodology** Data were collected via an online survey from a convenience sample of 480 consumers aged between 21 and 64, who have experienced online apparel shopping and at least heard of VFRs in the past. More than a third (35.8%) of the respondents indicated they have experienced VFRs in the past  The survey included 7-point Likert scales with items adapted from existing scales with acceptable reliabilities ($\alpha$>.70). The analysis was based on 11 latent variables and two control variables (age and gender), and PLS-SEM in SmartPLS 3.0 was used for the analysis (Figure 1).

**Results** Both the measurement model and the structural model showed acceptable fit (Figure 1). The SEM results suggested positive influences of perceived usefulness (PU) ($\beta$=.186), ease-of-use (PEU) ($\beta$=.112), enjoyment (PE) ($\beta$=.288), curiosity (PCR) ($\beta$=.194), and social benefits (PSB) ($\beta$=.151) on adoption intention (AD) toward VFRs, whereas perceived functional concerns (PFC) and control (PCT) did not show significant influences. Past experience (PEX) showed significant influences on  PEU ($\beta$ = .083), PFC ($\beta$ = .102), PSB ($\beta$ = .090). Fashion involvement (FI )had significant influences on PU ($\beta$ = .182), PEU ($\beta$ = .178), PE ($\beta$ = .161), PCR ($\beta$ = .272), and PSB ($\beta$ = .277). Shopping involvement (SI) showed significant influences on perceived functional values  ($\beta$ = .351; $\beta$ = .365; $\beta$ = -.225 respectively), experiential values ($\beta$ = .513; $\beta$ = .390; $\beta$ = .381 respectively), and social values ($\beta$ = .313).

**Conclusion** The results of this study give empirical supports to the multifaceted and integrative nature of consumer experience, identifying functional, experiential, and social values as the key determinants of consumers' VFR adoption. In this respect, VFR providers should further excel on the three values with enhanced VFR design. Further, the results suggest fashion retailers to consider consumers' prior experience, fashion involvement, and shopping involvement as segmentation bases. It appears that the chances of consumer adoption can be higher when targeting those who have an intrinsic interest in fashion and shopping. Additionally, VFRs providers should continuously strive to enhance core functionality as experienced users perceived functional concerns despite the ease of use.

### References
Berthiaume, D. (2021). Survey: Virtual try-on becomes real phenomenon. Retrieved from https://chainstoreage.com/survey-virtual-try-becomes-real-phenomenon

Davis, F. (1989). Percieved usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340.

Davis, F., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology*, *22*(14), 1111-1132

Dopson, E. (2021). What are virtual fittings rooms and why should retailers use them? Retrieved from https://www.shopify.com/retail/virtual-fitting-rooms

Kim, J., Fiore, A., & Lee, H. (2007). Influences of online store perception, shopping enjoyment, and shopping involvement on consumer patronage behavior towards an online retailer. *Journal of Retailing & Consumer Services, 14*, 95-107.

Lee, H. (2021). Fashion consumers' perception and adoption of virtual fitting rooms (VFRs): A perspective of regulatory focus and shopping involvement. *Unpublished Doctoral dissertation*. NC State University, Raleigh, NC. Retrieved from https://repository.lib.ncsu.edu/bitstream/handle/1840.20/38519/etd.pdf?sequence=1&isAllowed=y

Lee, H., Xu, Y., & Porterfield, A. (2022). Virtual fitting rooms for online apparel shopping: An exploration of consumer perceptions. *Fashion & Consumer Science Research Journal, 50*(3).

Lee, H., Xu, Y., & Li, A. (2020a). Technology visibility and consumers' adoption of virtual fitting rooms (VFRs): A cross-cultural comparison between Chinese and Korean consumers. *Journal of Fashion Marketing and Management, 24*(2), 175-194.

Legris, P., Ingham, J., & Collerette, P. (2003). Why do people use information technology? A critical review of the technology acceptance model. *Information & Management, 40*, 191-204.

McKechnie, S., Winklhofer, H., & Ennew, C. (2006). Applying the technology acceptance model to the online retailing of financial services. *International Journal of Retail & Distribution Management, 34*(4/5), 388-410.

Merle, A., Senecal, S., & St-Onge, A. (2012). Whether and how virtual try-on influences consumer responses to an apparel website. *International Journal of Electronic Commerce, 16*(3), 41-64.

Zhang, T., Wang, W., Cao, L., & Wang, Y. (2019). The role of virtual try-on technology in online purchase decision from consumer aspect. *Internet Research, 29*(3), 529-551.