Personalizing 3D Virtual Fashion Stores: Module Development based on Consumer Input

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Keywords: 3D virtual store, personalization, modular design, fashion shopping

Introduction and Background Consumers' demands for differentiation for unique shopping value are increasing (Popomaronis, 2017). A personalized three-dimensional (3D) virtual store could be the technological advancement to potentially fulfill these demands. Previous literature on 3D virtual stores has focused on the psychological aspects of consumers, their motivations, or intentions to use 3D virtual stores (Krasonikolakis, Vrechopoulos, & Pouloudi, 2014; Papagiannidis, Pantano, See-To, & Bourlakis, 2013). However, little research has suggested how to personalize 3D virtual stores that uniquely fit consumers' needs and wants. Personalization is important in that it enables the use sophisticated decision aids in shopping (Alba, Lynch, Weitz, Janiszewski, Lutz, Sawyer, & Wood, 1997), and it increases consumers' perceptions of the usefulness of shopping platform (Ko, Kim, & Lee, 2009). Thus, based on consumers' actual input on what they want for a personalizable 3D virtual store this study visualized the modular options for personalizing 3D virtual fashion stores.

Methods Undergraduate students in visual merchandising classes in a Midwest university in the United States were asked to suggest desired features for personalizing 3D virtual stores in a previous study. Our research team brainstormed ideas and created modular designs after a content analysis of consumers' input about 3D virtual store personalization features adopting Ha et al.'s (2007) online visual merchandising typology. Subsequently, we selected fashion merchandise online that did not contain any brand identification. Then, we designed original 3D virtual store options using Mockshop, a 3D visual retail software package, that can be used for a personalization process.

Results We developed a total of nine modules for personalizing 3D virtual stores, including: "style" (four options: modern, trendy, classic, and European), "price point" (three options: high-end, middle-end, and low-end), "product category" (four options: casual, formal, basic, and athletic), "color" (four options: warm, neutral, cool, and bright/neon), "presence of avatar" (five options: no avatar, personal avatar, shopping assistant, inviting friends, and many avatars of other shoppers), "virtual product try-on" (three options: no virtual product try-on, model virtual product try-on, and user image virtual product try-on), "music" (five options: no music, popular music, MD's pick, choose a genre, and upload your own playlists), "product recommendations" (seven options: no recommendation, recommend new product, recommend popular product, recommend MD's pick, recommend best match product, recommend past purchased product, and recommend on-sale product), and "product customization" (two options: no customization and customization). Each module had four options on average, and in turn, we had 37 options for personalizing 3D virtual stores. We visualized 15 store options that are consistent in size and are all for young women in their 20s, and the products they carry are for the Spring/Fall seasons, including garments as well as accessories, such as bags, shoes, and hats. There is an average of

40 products in each store. *Figure 1* shows an example of the product category module, which contains four options.

Significance and Implications We pioneered in visualizing the modules for personalizing 3D virtual stores based on consumer input. Our modules for personalizing 3D virtual stores could inspire future research and contribute original designs that can be readily used by online retailers. Future researchers could investigate the effect of personalized 3D virtual stores on consumers' responses (e.g., intention to use personalized 3D virtual stores) using our stores as experimental tools.

Figure 1. An example of the product category module with four options of casual, formal, basic, and athletic displayed in clockwise.

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