Virtual or real? try before you buy: investigating generation Z consumers' responses to luxury brand augmented reality application

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Keywords: AR app, luxury brand, S-O-R, PLS-SEM, eWOM

Introduction. Augment Reality (AR), as a novel technology, has transferred and advanced game and entertainment fields and now to retailing, which is expected to reshape consumer experiences (Marr, 2020). Customers no longer need to visit a store to examine and try a new product, which provides convenience during the pandemic. In the U.S., about 72% of consumers have conducted impulsive buying while using AR apps, and 71% of consumers bought more products when they used AR apps (Drake, 2019). Among various retailers, luxury brands try to utilize AR technology to offer potential customers an opportunity to try high-end and high-priced products as the luxury brand customers prefer to see, try, and test the products before purchase (Kyselova, 2018). Regardless of its increasing popularity, the current state of AR research has been limited to discuss the benefits of using AR app and consumers' acceptability of AR app (e.g., Watson et al., 2018; Rese et al., 2017). Also, no study has been done to explore the AR app and its role in consumer decision-making in the context of the luxury brand. Thus, the present study investigates how AR attributes (e.g., interactivity, virtuality) may affect consumers' cognitive and affective responses (e.g., perceived values), as well as behavioral outcomes (e.g., eWOM) based on Stimulus-Organism-Response (S-O-R) model (Mehrabian & Ruseel, 1974). This study expects to provide retailers with effective AR marketing strategies during the covid-19 period. In addition, the current study findings fill the literature gap by applying the S-O-R in the context of luxury AR application.

Hypotheses development. Mehrabian and Russell (1974) proposed the S-O-R model to investigate consumers' responses to the external stimulus. Extant literature has confirmed the S-O-R as the critical theoretical lens to explore consumers' behaviors in new contexts, such as online shopping (e.g., Eroglu et al., 2003) and new technology (e.g., Baytar et al., 2020). Similar to existing studies, the present study utilizes the S-O-R to investigate consumers' responses to AR apps. Do et al. (2020) and Zhao et al. (2020) confirmed that AR attributes affect users' behaviors as stimuli, so we examine representative AR attributes, interactivity, and virtuality as stimuli. Interactivity is defined as "the ability of users to change the form and content of a mediated environment in real-time" (Do et al., 2020, p.3), and it has been confirmed to satisfy consumers' sense of utilitarianism based on awareness of available useful information through augmented way (Jeon et al., 2016). Also, interactivity motivates consumers' enjoyment and drives pleasure responses based on the arousal of a great sense when they have interactive experiences (Yim et al., 2017) (H1a-b). Besides, virtuality, which refers to "media's capability of showing virtual elements or virtual worlds" (Javornik, 2016, p.255), improves consumers' functional experiences through navigation and interaction with the virtual products, and thus trigger consumers' cognitive responses to accelerate their information processing (Qin et al.,

2020). Consumers' sensory experiences through AR also activate affective responses and thus creating a great sense of enjoyment (Kang et al., 2020) (H2a-b). In addition to AR attributes, brand equity (i.e., awareness and image) is also examined as external stimuli because brand equity is considered as the assets to the brand and affects consumers' perceptions/responses toward the brand (Delgado-Ballester & Munuera-Alemán, 2005) (H3a-b). Perceived utilitarian value promotes consumers' evaluation of products and subsequential behaviors, such as attitude and future shopping intentions (Qin et al., 2020) (H4). In contrast, perceived hedonic value displays how consumers enjoy immersive technology that may develop a positive attitude toward this technology (Qin et al., 2020) (H5). According to Jeon and Jeong (2017) and Park et al. (2021), perceived brand quality assesses consumers' responses to the brand's related products or services; thus, we expect AR app, as one of the types of brand product/service, will also elicit consumers' responses (H6). Intentions are derived from cognitive and emotional responses based on environmental stimuli. As a behavioral intention, electronic Word of Mouth (eWOM) has been considered as a vital driver that affects the consumer decision-making process (Pang, 2021). Based on the extant literature, we examine the effects of eWOM on favorable attitudes toward the luxury AR app (Auguesto & Torres, 2018) (H7).

Methods. To test the suggested relationships, the present study employed a quantitative deductive survey method (n=137). In particular, we collected the Generation Z population as participants since Gen Z consumers are much more open to new concepts and technology and buy impulsively (McPherson, 2019). Participants were recruited through Amazon MTurk, and after removing ineligible responses, a total of 134 were retained for analyses. Participants were asked to try the Gucci AR app to search for a pair of shoes and complete the survey. To confirm that the respondents use the AR app, they were required to upload an image that shows their trial of shoes using AR to proceed to the main survey. A series of statistical analyses using SPSS and PLS-SEM were utilized to test model fit.

Results. Cronbach's alpha for all constructs ranged from 0.667 and 0.957, and the composite reliability ranged from 0.813 to 0.962, demonstrating good reliability. The model fit was acceptable (x^2 = 1757.918, SRMR = 0.091, NFI=0.645, rms Theta=0.16) after removing 1 item with the lower loading. Convergent validity was guaranteed as all the latent variables had an average variance extracted (AVE) higher than 0.5. To confirm discriminant validity, the squared correlations between constructs and the AVE of each construct was greater than the squared correlations between each construct. All suggested relationships were supported (H1a: β = 0.537, $p < 0.01$, H1b: β = 0.298, $p < 0.05$, H2a: β = 0.314, $p < 0.01$, H2b: β = 0.362, $p < 0.05$, H3b: β = 0.558, $p < 0.01$, H4: β = 0.400, $p < 0.01$, H5: β = 0.504, $p < 0.01$, H7: β = 0.603, $p < 0.01$) except for H3a (β = -0.073, $p >$ n.s.) and H6 (β = -0.011, $p >$ n.s.). Thus, AR attributes significantly influenced the perceived utilitarian and hedonic value and elicited consumer attitudes toward luxury AR app and eWOM intention. The results of brand image showed that consumers' perception toward the luxury brand has greater impacts on perceived quality of its additional service, such as AR. However, the results of brand awareness showed that consumers' memories with luxury brands do not affect consumers' use of the luxury AR app.

Discussion. The findings of this study contribute to the literature by demonstrating the S-O-R application in a new technology adoption behavior. The findings of our study empirically demonstrate that AR, as a new venue and tool, can be utilized in luxury brand marketing by enhancing consumers' attitudes and sharing the intention of the brand. Besides, luxury brand equity may not be the critical factor influencing consumers' behavioral responses when adopting the new technology; this may be due to the reason that this new technology provides consumers virtual and real-time try-on functions, so their awareness about the brand is not the key factor. Our findings also provide an insight to luxury retailers that luxury retailers should pay special attention to AR attributes and invest more in improving the AR technology of interactivity and virtuality. Future study is encouraged to investigate other populations' responses to luxury AR apps based on the current study limitation.

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