**Fashion and Beauty Retailing with the Metaverse:
A Systematic Review of 5 Years of Research**

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Introduction: The unprecedented proliferation of digital technologies has enabled fashion and beauty retailers to utilize the metaverse (i.e., a convergence of virtually enhanced physical reality and persistent virtual space) to promote their products and brands. However, the understanding of the metaverse remains blurred to retailing researchers since a holistic review of the academic literature is lacking. A thorough review of the literature is necessary to clearly map the current state of the knowledge on this emerging topic and identify the beneficial contextual approaches. Thus, the current study conducted a systematic review of the 5-year literature to stimulate scholarly discourse and offer well-defined future implications for fashion and beauty retailers.

Background: While the term, *metaverse,* was introduced in a novel in 1992, it is recent that the metaverse has gained increasing attention from researchers and practitioners. Many leading tech companies such as Meta, Microsoft, Decentraland, and Roblox Corporation are diving into the metaverse trend. Furthermore, fashion and beauty companies are expanding their services to the 3D spaces of the metaverse (Soltes, 2022). For example, consumers can purchase products in virtual worlds or try on the desired products through brands' virtual fitting rooms or showrooms and check how they would fit in the real world. However, no clear agreement is present yet on defining the metaverse phenomenon as broad definitions and various descriptions are used (Park & Kim, 2022). Consequently, the academic understanding of the metaverse is scattered and limited. In this vein, this study seeks to answer three research questions: what are the dominant concepts and issues covered in the retailing and consumer behavior literature on the metaverse? (RQ1); what are the theoretical and methodological guidelines applied in research? (RQ2); and what are the practical implications for fashion and beauty retailers? (RQ3)

Methodology: A systematic review was conducted based on the guidelines proposed by "preferred reporting items for systematic reviews and meta-analyses" (PRISMA) approach (Moher et al., 2009). PRISMA is known as one of the most widely used approaches among researchers for systematic review, with four clearly defined steps: identification, screening, eligibility, and inclusion. Published articles were first searched on Scopus and Web of Science, the two dominant databases in social sciences (Falagas et al., 2008). 1074 journal articles or conference
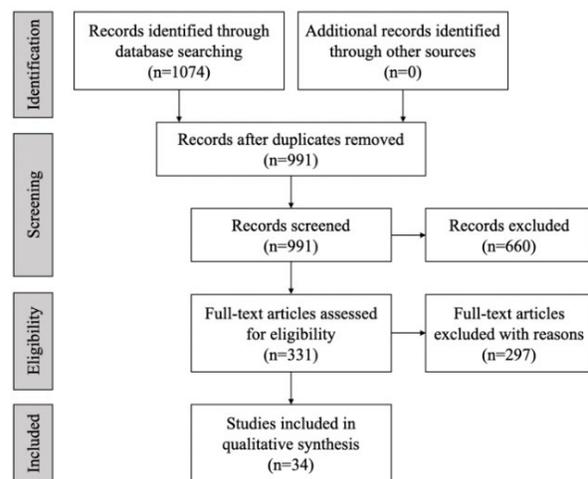

Figure 1. PRISMA flowchart

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proceedings written in English from January 2018 to February 2022 were identified. For publications to be included in the final analysis, they had to focus on the concept of metaverse or related terms and explore the concepts in the context of the consumer environment or fashion and beauty retailing landscape. The publications were excluded when (a) a full-text version of the paper is not available, (b) an extended version of the paper is available, (c) they are editorial articles, or (d) virtual/augmented reality was used as research methods only. 34 publications were included in the final synthesis. Figure 1 shows the review process.

Results: First, the conceptualizations of metaverse in the publications were analyzed. While studies explored metaverse or related terms such as virtual commerce and augmented reality, only a few studies used the exact term *metaverse* and definitions. The operationalized definitions of metaverse tended to be inconsistent among the studies, as metaverse has been used as a collective term representing four services such as augmented reality, lifelogging, mirror worlds, and virtual worlds (Smart et al., 2007). Some describe metaverse as an environment created by

the convergence of virtual and augmented reality (Choi & Kim, 2017; Jeon, 2021), whereas others focus on the shared virtual worlds where people can interact synchronously through their avatars with others (Kim, 2021). Especially in retailing, the future of the metacommerce was predicted, which means an interconnected and persistent virtual commerce that is enhanced by immersive technology and emerging technologies such as faster telecommunication (e.g., fifth-generation technology), secure recording system (e.g., blockchain), and advanced computing (e.g., cloud computing) (Shen et al., 2021).
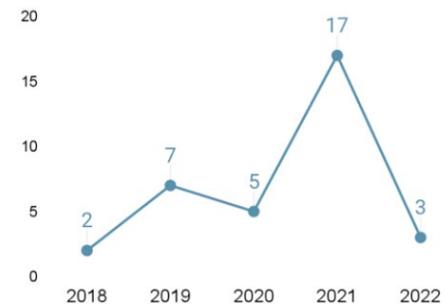

Figure 2. Year-wise distribution of articles

An overview of the studies answered RQ1 and RQ2. The number of articles by the year of publication implied the recent surging interest in the metaverse (See Figure 2). Whereas most studies (n=10) did not employ theoretical frameworks, the top four frameworks were the stimulus-organism-response framework (SOR; n=4), the technology acceptance model (TAM; n=4), telepresence (n=4), and self-determination theory (n=2). Each of the remaining studies used various frameworks such as anthropomorphism, behavioral reasoning theory, construal-level theory, consumer culture theory, and flow theory. Most of 34 articles used quantitative research methods (n=25, 73.5%), followed by qualitative (n=6, 17.6%) and mixed methods (n=3, 8.8%). Among the quantitative research studies, 17 used experimental design while 11 used survey design. The findings of the studies were synthesized to answer RQ3.

Discussion and Implications: As the metaverse continues to advance, opportunities for retailers will grow exponentially with metacommerce. A promising research topic revealed from the systematic review is how synchronous social interaction with other consumers in virtual commerce affects consumer decision-making process. Throughout the studies, perceived ease of

use, perceived usefulness, emotional benefits (i.e., pleasure and enjoyment), perceived telepresence, and perceived interactivity from virtual commerce were found to be key determinants in evoking consumer satisfaction, affective and cognitive attitudes, consumer interest, online and offline purchase intention, and intention to visit a physical store. A vivid, interactive, and entertaining virtual commerce environment for body-involvement products such as fashion and beauty was found to be especially important. Because consumers' need for touch is a critical barrier to virtual commerce, it is crucial to make consumers feel experientially and emotionally fulfilled and engaged with products in virtual spaces through increased vividness and interactivity to compensate for the lack of physical sensory experience. For example, enabling the functions of immersive technologies such as 360-degree based VR videos of stores and products that consumers can manipulate in the metaverse will be helpful. In summary, the findings imply that fashion and beauty retailers should focus on enhancing consumers' ability to interact with products in the metaverse with high responsiveness and realism and making consumers feel virtually present and enjoyed.

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