ABSTRACT

This PhD thesis delves into key dimensions of the Metaverse, with a focus on avatar affordances, consumer behavior, and user incivility. As the Metaverse emerges as a groundbreaking realm of digital interaction, understanding how to foster consumer engagement and ensure safety is crucial for its sustainable development. This research addresses two main challenges through two distinct studies: the first examines how avatar-specific affordancessuch as embodiment and multi-sensory interactions-influence consumer attitudes and purchase intentions. The second study explores the potential of neuro-symbolic AI to moderate user incivility on Metaverse platforms effectively. In Study 1, the impact of artificial scarcity and psychological ownership on consumer behavior within gaming Metaverse environments is investigated. Data from 478 participants, collected through purposive sampling, were analyzed using a hybrid approach that combines structural equation modeling (SEM) with artificial neural networks (ANN). The findings reveal that enhanced avatar affordances can mitigate negative perceptions linked to artificial scarcity and psychological ownership, ultimately boosting consumer engagement and purchase intentions. Study 2 focuses on the effectiveness of neuro-symbolic AI in moderating user behavior within social Metaverse settings. Data from 398 VRChat users were analyzed using SEM-ANN methods. The results suggest that consumers perceive neuro-symbolic AI as more effective than human-based moderation in reducing user incivility, thereby enhancing user retention and platform safety. Grounded in affordance-actualization theory, this research offers both theoretical insights and practical recommendations. It highlights the importance of optimizing avatar affordances and incorporating advanced AI moderation to create engaging, safe, and economically viable virtual environments in the evolving Metaverse landscape.

Keywords: Metaverse, Avatar, Affordance, Embodiment, Presence, Artificial Scarcity, Psychological Ownership, User Incivility, Content Moderation, Neuro-Symbolic Artificial Intelligence