Augmented Reality Digital Assistants (ARDAs): Examining the role of Anthropomorphism

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The role of Augmented Reality (AR) has expanded dramatically across contexts in recent years, with the rise of AR games (e.g., Pokémon Go), AR shopping (e.g., IKEA app) and AR social media (e.g., Snapchat), and product demonstrations (e.g., Toyota and Hyundai). AR is slowly becoming a part of everyday life, from using filters on social media to being an educational tool, and is expected to continue to grow. In 2021, the mobile AR market was worth approximately 12.45bn USD and is expected to reach over 36bn USD by 2026 (Alsop, 2022). Alongside AR, Digital Assistants (DAs) have also developed at a considerable rate, with an expected eight billion digital voice assistants being used globally by 2024 (Thormundsson, 2022). DAs can be categorised into two fundamental streams, being (1) voice assistants (VAs) and (2) chatbots.

With both Augmented Reality and Digital Assistant technologies serving a plethora of consumer needs and services, and as they are expected to see considerable growth over the coming years, it is important to not only examine them individually but also collectively. Doing so will further understanding into these technologies and their propensity to transform the consumer experience. Thus, the term "Augmented Reality Digital Assistants" (i.e. ARDAs) is coined. Augmented reality (AR) technology transforms a user's visual experience of the physical world in real-time, by allowing the user to, "see the real world, with virtual objects superimposed upon or composited with the real world," (Azuma, 1997). On the other hand, Digital assistants are Internet-enabled devices that provide daily technical, administrative, and social assistance to their users, including activities

from setting alarms and playing music to communicating with other users (Han & Yang, 2018; Santos et al., 2016)

ARDAs can assist individuals through overlaying instructions from the virtual environment on the real-world environment through an array of modalities (e.g., audio, video, text) conveyed either with or without an anthropomorphised figure.

Through an experimental approach, in which a number of bespoke ARDA experiences have been developed, this research aims to understand if ARDAs can have a positive influence on a consumer's service experience and to understand if human vs non-human ARDAs play a role on consumer responses and preferences.

The results of this research will advance our understanding on the role of AR in service provision and how intelligent digital assistants can contribute to everyday service settings.

Keywords: Augmented Reality, Digital Assistants, Anthropomorphism

References Available on Request.