

## AUGMENTED REALITY EXPERIENCES: EXPLORING THE SENSORY AND COGNITIVE ASPECTS THAT FOSTER BRAND LOYALTY

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### Introduction and Background

Rapid advances in the development of new technologies that blend the real and virtual world are transforming the way in which consumers interact with brands. Augmented reality (AR), which overlays computer-generated objects onto the real world (Javornik, 2016), provides tremendous opportunities for brands to engage consumers through sensory and cognitive processes as they interact with the technology. Due to the rapid development of AR however, there is a dearth of research to understand how the sensory and cognitive aspects of an AR brand experience influence brand loyalty. With investment in AR technology set to increase to \$195 billion by 2025, and with consumer downloads of mobile AR applications set to increase to 5.5 billion by 2022 (Statista, 2020), the need for more research on this burgeoning technology is of importance to both firms and our collective knowledge in academia.

As augmented experiences reshape consumer interactions and consumption experiences, basic assumptions and models in the marketing literature and beyond need to be re-evaluated considering the original underlying foundation was the physical environment. However, most research aiming to understand AR in the marketing domain address motivational concerns of online product presentation without fully studying consumers' information processing (Manis & Choi, 2019). In computer sciences and robotics, some research has assessed information processing of users during virtual object interaction across augmented reality, virtual reality, and physical reality (Kardong-Edgren, Farra, Alinier, & Young, 2019). Yet these studies fall short of exploring consumer or consumption relevant relationships and concepts. In addition, the interaction and acceptance of these new technologies has been widely researched utilizing MIS or related theories such as the technology acceptance model (TAM). However, while TAM explains how ease of usability leads to increased perceived usefulness and ultimately positive attitudes and behaviors (McLean et al, 2020), these models lack a deeper understanding of how consumer experiences are fundamentally altered by these technologies and thus solid theoretical frameworks are still scarce.

In this study, we seek to address this gap in knowledge by examining the psychological and sensory processes that lead to loyalty intentions and ask the following questions: 1) does consumer engagement with an AR experience have a lasting impact on loyalty? 2) What cognitive processes optimize the experience of a brand upon engagement with an AR experience? 3) What psychological and sensory processes influence loyalty behaviors upon engagement with an AR experience?

In our study, we build our conceptual model based on research in the psychology, technology and marketing disciplines with immersion (Yim et al., 2017), sensory experiences (Pagani et al., 2019; Brackus et al., 2009; Schmitt, 1999), and episodic memory (Rugg & Wilding, 2000) playing key roles in fostering loyalty behaviors upon engagement with an AR experience.

## **Method**

Utilizing a commercially available AR experience, a between-subjects, pre-test/post-test experiment was conducted with 451 participants. One group were assigned to the AR experience and one group were assigned to the control group (no AR experience). Participants in the treatment group (AR) were instructed to scan a QR code to activate the experience, whilst participants in the control group were instructed to examine a static image. A pre-test questionnaire was administered to screen for product use and ability to access the AR experience with a smart phone. Following exposure to the experience, respondents were asked to complete a series of questions to measure the variables in our conceptual model. A follow-up study was conducted with each group to complete a second questionnaire one week after initial contact to examine the lasting impact of the AR experience on brand loyalty versus the control group. Quantitative analysis in the form of structural equation modelling was used to analyze the variables and their influence on loyalty. A paired samples t-test was conducted to examine the impact of the AR experience on loyalty intentions one week after exposure in the treatment group versus control.

## **Contributions**

Initial findings indicate that the unique AR sensory experiences play a key role in fostering loyalty intentions. The results indicate that loyalty intentions in the AR experience have a more significant increase versus control one week after exposure. Results suggest that the immersive experience consumers' encounter with AR brings a unique opportunity for brands to foster loyalty through the sensory aspects of AR that stimulate immersive involvement. Accordingly, attributes specific to AR act as a facilitator of the immersive aspect of an AR experience. Further, the immersive state can trigger episodic memory (the ability to remember personally experienced events that are associated with a particular time or place), that in turn significantly influences consumers' overall brand experience and loyalty intentions.

This study responds to calls for the need to further understand the unique context of AR experiences and the value that they add to brands. This study does so by investigating the psychological and sensory constructs such as immersion, episodic memory and brand experience and their role in fostering loyalty intentions upon interaction with an AR experience. Our study therefore adds to the extant literature by furthering our knowledge on the sensory and psychological elements of AR and its subsequent influence on brand loyalty and the overall brand experience. Further, our study reveals useful practical implications for the design and implementation of AR experiences. For instance, the sensory elements inherent within AR, such as the highly interactive touch and manipulation of computer-generated objects overlaid on the real world enable firms to develop a closer bond with consumers and in turn foster loyalty with their customers. Such intimate interactions are not possible in other computer-mediated environments and thus offer consumers an experience that brings them closer and more involved with the brand.

References available upon request