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Augmented Reality Marketing-Impact on Intrinsic Motivation and Optimal User Experiences

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ABSTRACT

Augmented Reality (AR) marketing has emerged as a transformative tool with the promise of a captivating user experience. Through the lens of flow theory, this study examines and seeks to understand how AR marketing triggers intrinsic motivation and fosters optimal user experiences. Based on the concept of flow theory which elucidates the psychological state of deep engagement and enjoyment, this research-in-progress proposes to examine how AR marketing campaigns can cultivate flow experiences to enhance attitudes towards both, the advertisement and the brand. This research-in-progress will adopt a mixed-methods approach involving quantitative surveys and qualitative analyses, to explore the interplay between flow experiences, attitudes, and user engagement in AR marketing contexts. By examining key components of flow theory, such as clear goals, immediate feedback, and balance between skill and challenge, the research aims to identify strategies for designing AR marketing experiences that facilitate flow states and subsequently influence attitudes towards the advertisement and the brand. The findings of the study are expected to have significant implications for marketing and technology academicians and practitioners. Additionally, the findings will guide industry practitioners in leveraging AR technology to create immersive and impactful brand experiences, ultimately fostering positive attitudes and stronger consumer relationships in an increasingly digital landscape.

Keywords

Augmented Reality (AR), Flow Theory, Digital Marketing, Intrinsic Motivation, Branding, User Experiences, Mixed Methods Approach.

INTRODUCTION

The use of Augmented Reality (AR) in marketing has attracted a lot of interest both from scholars and practitioners, both of whom seem keen on adopting the technology within their marketing strategy (Alimamy and Al-Imamy (2022)). AR marketing offers brands innovative ways to engage with consumers. However, understanding the factors driving user engagement in AR experiences is a crucial factor contributing to the success of marketing using AR. Flow theory, first introduced by Mihaly Csikszentmihalyi in 1975, continues to capture the imagination of researchers and practitioners across various disciplines. Defined as a state of complete absorption, intrinsic motivation, and a dynamic balance between challenge and skill, flow theory offers a lens into understanding and enhancing human engagement and performance (Csikszentmihalyi, 1975).

A central premise of flow theory revolves around the delicate equilibrium between perceived challenge and individual skillset. When challenges surpass skills, anxiety arises, while an excess of skill over challenge leads to boredom. Achieving optimal flow occurs when individuals perceive a sweet spot between these two factors, resulting in focused attention, energized effort, and a sense of mastery (Csikszentmihalyi, 1990). Through the lens of flow theory, this study examines and seeks to understand how AR marketing triggers intrinsic motivation and fosters optimal user experiences. Based on the concept of flow theory which elucidates the psychological state of deep engagement and enjoyment, this research-in-progress proposes to examine how AR marketing campaigns can cultivate flow experiences to enhance attitudes towards both, the advertisement and the brand.

LITERATURE REVIEW

Understanding the core components of flow theory enables researchers and practitioners to develop interventions aimed at promoting optimal experiences and enhancing engagement in various domains, including education, workplace settings, and marketing campaigns. Time perception often becomes distorted during flow, with individuals losing track of hours due to

intense focus and engagement. This distortion underscores the immersive nature of the flow experience (Csikszentmihalyi, 1975). Flow experiences induce a heightened state of action awareness, where individuals become fully immersed in the present moment and lose self-consciousness. Distractions fade away, and attention laser-focuses on the task at hand, promoting complete engagement and enjoyment (Csikszentmihalyi, 1975). Recent research by Pekrun et al. (2014) underscores the role of mindfulness in facilitating flow, further highlighting the importance of present-moment awareness.

Goal setting and feedback fuel the flow state. Clear goals and timely feedback serve as crucial catalysts for fostering flow experiences. Having well-defined objectives and receiving ongoing progress updates empower individuals to adjust their actions and maintain the optimal challenge-skill balance, fueling continued engagement and intrinsic motivation (Csikszentmihalyi, 1990; Jackson & Eklund, 2019). During the flow experience, there is a merger between awareness and action, and the boundaries between action and awareness blur. Actions become effortless, and thoughts and behaviors seamlessly align toward achieving the set goal. This merging amplifies feelings of control and mastery, contributing to the overall positive flow experience (Csikszentmihalyi, 1975).

Perceived control plays a central role in flow theory. Individuals need to feel they can influence the outcome of their actions. Autonomy and a sense of agency are critical for maintaining the challenge-skill balance and avoiding feelings of helplessness or frustration (Csikszentmihalyi, 1990). Deci and Ryan (2000) further emphasize the importance of self-determination theory in understanding intrinsic motivation and flow experiences. An immersion occurs during the flow experience which transcends self-consciousness. In flow states, individuals become so engrossed in the activity that self-consciousness diminishes. Concerns about self-evaluation and external judgment recede, allowing for complete focus and enjoyment of the experience itself (Csikszentmihalyi, 1975). Recent studies by Engeser and Rheinberg (2017) delve deeper into the concept of autotelic absorption, further exploring the loss of self-awareness during flow.

Intrinsic motivation plays the role of a driving force during a flow experience. Flow activities are primarily driven by intrinsic motivation, also known as ‘autotelic experience’. Individuals engage in these activities not for external rewards or pressures, but for the inherent enjoyment and satisfaction they provide (Csikszentmihalyi, 1975). Additionally, time perception often becomes distorted during flow, with individuals losing track of hours due to intense focus and engagement. This distortion underscores the immersive nature of the flow experience (Csikszentmihalyi, 1975). Flow theory has been applied across various academic disciplines to understand intrinsic motivation and optimal experiences. Provided below are some examples of studies that utilized flow theory in diverse contexts.

Application of Flow Theory in the Domain of Education

Schüler and Brunner (2009) studied the application of flow and knowledge acquisition in computer-mediated learning environments. Their research explored the relationship between students' flow experiences during online learning activities and their knowledge acquisition and retention. Results indicated a positive correlation, suggesting flow facilitates deeper learning. Csikszentmihalyi and Larson (1984) conducted a psychological examination of flow states in the context of optimal experiences in everyday life. Their classic study investigated flow experiences in diverse everyday activities including studying, working, and leisure. Findings demonstrated the presence of flow across various domains, highlighting its widespread applicability.

Application of Flow Theory in the Domain of Sports

Jackson and Marsh, H. W. (1996) developed and validated a scale called the “Flow State Scale”, to measure optimal experience. The development of the scale has enabled further research in various contexts, including in the domain of sports psychology. Feltz and Chirpman (1992) studied the applications of flow theory in the context of intrinsic motivation in sports. This study examined the relationship between flow experiences in athletes and their intrinsic motivation to participate in sports, showcasing the positive impact of flow on sports engagement.

Application of Flow Theory in the Domain of Technology

Nakatsu and Tsurumaki (2020) studied the flow experience with AR and its relation to user engagement. Their work examined the relationship between flow experiences and user engagement in AR applications, suggesting that well-designed AR experiences can facilitate flow and enhance user engagement. Sailer, Hrastinski, and Bowman, (2012) studied flow experience in immersive virtual environments. This study explored flow experiences in virtual reality (VR) environments, demonstrating the potential of VR to induce flow and its implications for user engagement and learning.

Application of Flow Theory in the Workplace

Bakker (2005) researched the application of flow theory to better understand and improve employee engagement in the workplace. The findings of the study revealed that creating flow-enhancing work environments could increase employee satisfaction and productivity. Engeser and Rheinberg (2008) studied compared flow experiences in work and leisure activities, highlighting the importance of challenge-skill balance and autonomy in achieving flow regardless of the context. The role of flow theory in various domains and the impact it can create on sales and user experiences through application in the AR marketing domain should be clear based on the literature review presented above.

Application of Flow Theory in Online Environments

Hoffman and Novak (2009) examined the conceptualization and measurement of flow in online environments, the marketing outcomes of flow, and how the characteristics of websites influence users' flow experiences. They identified clear navigation, interactivity, individualized content, and feedback as important factors for flow in online interactions. The study stresses the importance of flow as a construct for understanding consumers' use of the internet.

RESEARCH DESIGN AND METHODOLOGY

Research Model and Hypotheses

We propose a research model to explore the impact of flow experience with AR, on user engagement. Users' level of immersion, concentration, enjoyment, and perceived control while interacting with the AR application will be measured through a survey to assess flow experience. Engagement will be evaluated through time spent using the AR app, frequency of use, completion of tasks, and positive word-of-mouth. The basis for our model is that higher flow experience leads to increased user engagement.

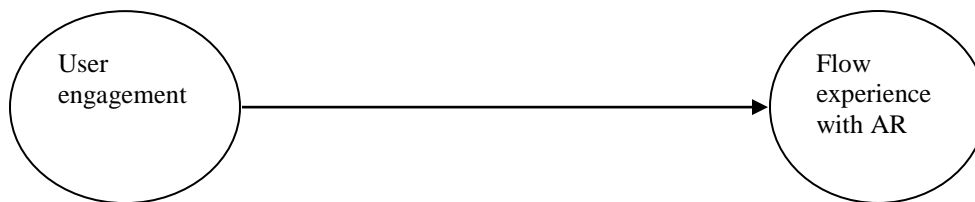


Figure 1. The Research Model

Constructs and Survey Instrument

A questionnaire survey based on the Likert Scale will be developed and used for the data collection. In addition to items (questions) about the respondent profile and demographics, the survey instrument (questionnaire survey) will contain appropriate items to measure the dependent and independent variables. A statistically valid sample size will be used. Items for the constructs will be adapted from existing research studies with suitable modifications. The reliability and validity of the items in the instrument will be assessed before the analysis. Several scholars of social and behavioral sciences have called for the use of mixed methods to answer research questions more effectively (Rudd & Johnson, 2010; Tashakkori & Teddlie, 2003). The study will adopt a mixed-methods approach involving quantitative surveys and qualitative analyses to explore the connections between flow experiences, attitudes, and user engagement in AR marketing contexts.

RESEARCH FOCUS AND FUTURE DIRECTION

This research investigates the influence of flow experience on user engagement in AR marketing, proposing a model wherein factors such as immersion, concentration, enjoyment, and perceived control positively affect user engagement with AR applications. Engagement is assessed through metrics including app usage duration, frequency, task completion, and positive word-of-mouth. Several avenues for future research emerge from this study. Firstly, there is potential to explore specific design elements within AR experiences that foster flow, such as interactivity, challenge-skill balance, and feedback mechanisms. Secondly, future investigations could delve into individual differences, examining how factors like personality traits, prior AR exposure, and age modulate the relationship between flow and engagement.

Thirdly, researchers might explore the long-term impact of flow on user behavior, particularly investigating how sustained flow experiences in AR marketing campaigns correlate with brand loyalty and purchase intentions. Additionally, applying flow theory to diverse AR contexts, including educational or entertainment applications, could help gauge the generalizability of the proposed model. Lastly, employing advanced data analysis techniques such as eye-tracking or experience sampling could provide deeper insights into users' real-time flow experiences within AR environments. By pursuing these avenues, researchers can enhance their understanding of leveraging flow theory to design compelling and efficacious AR marketing experiences.

CONCLUSION

This research-in-progress explores the significance of flow experience in shaping user engagement within Augmented Reality (AR) marketing contexts. The proposed model underscores the importance of factors such as immersion, concentration, enjoyment, and perceived control in fostering positive user engagement metrics, including app usage duration, frequency, task completion, and positive word-of-mouth recommendations. Future research endeavors could focus on exploring specific design elements within AR experiences, understanding individual differences, investigating long-term effects on user behavior, and applying advanced data analysis techniques to deepen our understanding of flow experiences in AR environments. By pursuing these avenues, researchers can advance the field's knowledge base and contribute to the development of more effective and engaging AR marketing strategies.

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