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A Proposed Model for the Approach to Augmented Reality Deployment in Marketing Communications

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Abstract

In the contemporary landscape, human interaction is characterized by the pervasive mediation of intelligent agents. Owing to advances in computer science and engineering, phenomena once limited to fixed locations are metamorphosing from extraneous entities to implicit components of the everyday. Computing power has simultaneously enhanced and miniaturized to the extent that contemporary consumer devices demonstrate power equivalent to or greater than that of personal computers of recent memory. At the same time, network connectivity has proliferated to ubiquitous levels, reflected in the fact that the amount of inanimate objects connected to the Internet has recently surpassed the human population of earth. Digitally mediated experiences are thus no longer the province of fixed-line terminals; rather than projecting a virtual avatar of oneself into a synthetic environment, elements of that environment are extricated and placed into the physical domain. In this landscape, the concept of augmented reality (AR) has emerged as a way to visualize the pervasive virtual information woven into the physical environment. However, research on the phenomenon has largely remained technical in nature; the collective body of work which seeks to understand its role in society has remained comparatively limited. This paper aims to bridge the divide between these hitherto disparate research avenues. The paper affords particular attention to the impact of AR on the discipline of marketing communications, as the domain's interest towards phenomenon accelerates; following the motifs of historically innovative phenomena such as television and the Internet. Through a qualitative approach, the paper derives insight from key social actors, resulting in a number of findings used as a foundation to build knowledge on the nascent role of AR in the marketing communications domain. A model is presented which schematizes an approach to the deployment of AR, formalizing the collective intelligence of those key social actors. The aim of the paper is thus to propose heuristics for marketing professionals who seek to implement AR as a component of a communications programme, and increase the collective knowledge of the discipline on this enigmatic phenomenon. The proposed model is dual-natured, highlighting not only the unique attributes of AR, but emphasizing the robustness of traditional best practice values to which its implementation must adhere. The latter represents a recurring theme throughout the research findings; a potentially significant one given the singular nature of the phenomenon and the tendency towards the novel observed in many of its early applications.

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1. Introduction

The ubiquity of digital media is axiomatic of the contemporary environment, wherein digitally mediated interactions have become the essence of its landscape. The consumption of digital information was once the province of entirely virtual environments, within which users held a likewise virtual presence. Increasingly, virtual content is extracted from synthetic worlds and assimilated into the corporeal; the mediating technologies through which individuals interact with it are becoming appendages of the physical self, signalling profound changes to innumerable application areas. This paper explores a contemporary phenomenon engendered by this landscape of pervasive mediation referred to as augmented reality (AR). Specifically, the paper positions itself within the broad realm of marketing communications, examining AR in the context of the discipline. The challenge of establishing concepts of best practice in the discipline of communications is apparent, as developments in the media landscape in which it operates ceaselessly perpetuate. As the standards of human communication and consumption continue to be redefined, so too must the corresponding enterprise of practitioners. To this end, the author proposes a model approach to the deployment of AR for marketing practitioners. It is argued that adherence to the tenets of the model will result in the dissemination of resonant AR output, highlighting the limitations of the medium when considered independent of best practice principles.

2. Background to the research

2.1. *Genesis of augmented reality*

Augmented reality (AR) systems integrate virtual information into a user's physical environment so that the information is perceived as existing in the environment (Höllerer et al., 2001). Consistent with the work of Milgram et al. (1994), it may be helpful to conceptualize reality as a straight line; a continuum from fully real to fully virtual. One end represents an individual's presence in a physical environment, shared with other objects of the atomic world (Yoh, 2001). On the other end, virtual reality (VR) describes one's immersion in a fully synthetic environment. AR occupies the space between the real and the virtual ends of the continuum. As distinct from virtual reality, AR applications generate virtual information to overlay tangible objects in real time (Zhou et al., 2008). To illustrate, a heads-up display (HUD) system used by pilots in military aviation utilizes AR technology to display critical flight data. In this context, the virtual information integrated into the pilot's field of vision might include coordinates and other navigational data. Indeed, this manner of industrial application is synonymous with traditional AR systems, owing to the cumbersome nature of the technology of which they were typically comprised.

The technical components fundamental to AR no longer limit its applications to industrial fields; many have become native to contemporary consumer devices such as the smartphone. The most conspicuous illustration is that of the device's camera, which acts as a portable window allowing users to access the virtual information increasingly embedded into the physical world through a software interface. At a more latent level, inertial sensors such as the digital compass, accelerometer and gyroscope allow the device to determine the user's orientation relative to the earth, important for the accurate positioning of virtual annotations; while advanced processing power allows the device to render increasingly sophisticated graphic overlays (Bernardos and Casar, 2011). Where AR systems were once limited to predominantly ad hoc contexts in which the environmental variables were controlled (Kangas and Röning, 2002), native location sensors such as the Global Positioning System (GPS) combined with a high bandwidth communication capacity have enabled the growth of mobile AR applications (Takacs et al., 2011).

2.2 *Marketing interest in AR*

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