Exploring Engagement in AR Games Through Content, Context, and Presence

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ABSTRACT

At the present, video games and network media communication are responding to the emerging sense of competition, temporality, and efficiency in Chinese society. Additionally, they are reflecting the general desire for a sense of identity, free connection, and shared narratives, which are constantly merging and complementing each other to form a highly charged, unifying entertainment device. Simultaneously, the relationship between gaming platforms and gaming users is evolving to create a new order of video game dissemination in network media. More specifically, AR games are the highly contemporary immersive games of the moment due to the explosive growth of their user base, and the ongoing advancement of creative concepts and commercial capital applied to them.

The question of how AR games achieve engagement and communication is rarely addressed; at the same time, player engagement and consumption is also rarely clearly defined. Therefore, we propose that there are two central aspects of AR games' engagement with social communication: consumer engagement with communication and network media engagement with communication. This thesis applies the play theory of mass communication of consumer engagement and media engagement to investigate AR game consumption.

Considering the above two questions, we use the communication effect, which is the central focus in the field of communication, as the entry to clarify the factors influencing the effect of AR game communication in network media.

Keywords: *New Media; AR Game; Public Engagement; Interactive Experience.*

1. INTRODUCTION

AR games extend the gaming experience through visual processing, allowing real street scenes to seamlessly interface with virtual sprites. In practice, intermediary devices create a virtual world, in which gamers explore and build a different persona(Aluri 2017). AR games break through the limitations of displays and revolutionise online gaming, creating a gaming environment where the virtual and real-life environments merge.The thesis aims to bridge the gaps between engagement and the play theory derived from mass communication studies from both player and media engagement perspectives. In doing so, it takes an initial step towards developing an in-depth, substantial exploration and understanding of player engagement in AR games by referencing three principal aspects of AR game production and consumption: content, context, and presence. Augmented Reality (AR) is the co-existence of virtual and real-world information, a concept pioneered by Tuomas Kari which ‘superimposes dynamic, contextualized information on the user's visual field’(2016). It is now the case that this technology is being integrated into the gaming industry.

2. AR GAMES AND ENGAGEMENT

The earliest human exploration of 'play' can be traced back to the ancient Greeks. Johan (1967) was the first to systematise the theory of play in the field of cultural studies, arguing that ‘man is only completely human when he is playing’. Notably, his research was also influenced by William Stephenson's examination of communication from the perspective of play theory (Johanna, 2015).

‘The Ludenic Theory of Newreading' and 'The Play Theory of Mass Communication' were published in the 1960s. Stephenson, a physicist and psychologist, did not adhere to the classical communication research in his interpretation of the play theory of communication, and instead, focused on his own ideas and perspectives. He compared the process of reading the news to "understanding things through an interest system that is

already in place". The result is to form an orderly reading habit, the concept of which is 'News reading as a game'(William,1967).

In summary, the essential idea of communication game theory is that 'the beauty of mass communication is that it immerses its audience in subjective game play'. Moreover, its main themes include 'communicating pleasure and pain 'and 'workability and playfulness' Stephenson (1967). While scholars such as Schramm and Goffman have in essence studied the rules of play, Stephenson adopted a different approach and placed a greater emphasis on the subject's experience in play.

In the dissemination of AR games through online media, users, as players, tend to interpret the concept of the game according to their broader perception of video games. There is a desire amongst users to seek out a sense of freedom and commonality that feel is absent in real life. At the same time, they also desire to have a space for individual identity mobility to resist the reality of social stratification ((Bagozzi & Dholakia 2002; Tsai & Bagozzi 2014). This desire has led people to immerse themselves in the virtual space of opposites. Crucially, it is this quality of MOBA-like AR games that has subsequently led to the formation of China's huge gaming market.

From the perspective of historical development, communication play theory was born during the transition from paper to TV media. Its modern interpretation specifically pertains to the gamification of communication. As such, the effectiveness of communication is measured in terms of "immersion, participation and feedback in response to scenarios, rules and tasks", as well as "changes in media narratives, experiences, and the nature of users and media positioning" as a result of the gamification of communication (Hsiao & Chiou 2012).

This process allows for the reconfiguration of media communication materials and the creation of the various elements that motivate users to participate in games, such as game ranks, props, characters, and levels, which can be arranged and combined to form internal game structures, such as scenarios, rules, and tasks. These structures then interact with the external game environment described above to form the game context of online media eSports communication.

In a high-stress, fast-paced life, the simple pursuit and desire for pleasure lead individuals to partake in AR e-sports or immersive gaming. This results in what Stephenson (1967) calls "reading the news in a pleasure-getting state of mind, thus forgetting the worries and obligations of the real world".

The popularity of AR games has led to a shift in players' physical perception. Players are now used to emotional recognition in virtual gaming environments with shared narratives and values (Hamari, 2015). As such, online media video game communication offers a new way of communicating with a contemporary youth group that is inclined towards companionship and reticent towards friendship, thus taking away the loneliness of the real world and achieving a simple and effective sense of emotional empathy.

3. AR GAME CONTENT AND ENGAGEMENT

Players have to use their mobile phones to see the augmented world and locate 'wild 'Pokemon hidden in the environment. When they find a Pokemon, the game app will superimpose a virtual Pokemon on the live camera image, which the player can then capture using the game functions. These Pokemon can be then trained to make them stronger and used to complete missions or engage in battles with other players (Tuomas Kar, 2016). AR mobile games are based on three aspects of AR technology: the provision of location services, image recognition or scene identification, and special effects data processing.

In terms of its technical functionality, Pokemon Go displays virtual 3D sprites onscreen by combining the device's mapping, positioning, camera, and image identification functions. As such, whilst the game does augment the surroundings, it does not apply AR technology to enhance the player's environment, and therefore, it cannot be said to truly be an AR game in the strictest sense. To produce an immersive augmented reality effect, in which the game generates virtual objects and integrates them with the real-world environment entails a powerful hardware system in the device and additional equipment for the player, such as handheld devices or AR glasses (Yee,2006).

At present, mobile phones that support AR technology are still in the experimental research stage. Additionally, the required additional equipment is prohibitively expensive. For instance, Microsoft's HoloLens costs around $3,000 (Tuomas Kar, 2016) , which is a serious limit on the effectiveness and development of AR gaming. Pokemon Go is a mobile game that adopts a less complex AR technology approach, and in doing so, avoids the two disadvantages mentioned above.

It allows players to run AR games using regular mobile phones, without the need to purchase expensive augmented reality glasses and other equipment, which has allowed it to become hugely popular. By way of contrast, games that utilise traditional control methods, including mobile games, require the player to rely on their responses and hand-eye coordination to navigate the game.

To interact with the device or virtual objects depicted onscreen, the player must do so through commands, which the game then carries out, the results of which are

displayed onscreen. In this way, play-game interactions can be both passive and active. With the help of cameras, accelerators, GPS, LEDs and other mobile phones components, AR can allow players to interact with virtual objects integrated into the real-life environment as part of the game (Tuomas Kar, 2016).

To bolster the intelligence of AR games, player interactions can be enhanced by programming gesture and posture recognition and facial expression recognition and analysis into the game. For Pokemon Go, the "Pokemon Go Plus" device, a small wrist-mounted device with Google Maps functionality built in can be worn to further enhance the degree of interaction between the AR game and the real-world environment. The device has Bluetooth functionality, allowing to connect with the phone and keep the player informed of their progress. There is a strong desire amongst games to explore novel and innovative going experiences (Seaborn,2015). In response, "Pokemon Go" offers a new way of playing and experiencing games that is different from the previous ones, which is why it has been well received and sought after by gamers.

4. AR GAME CONTEXT AND ENGAGEMENT

Media engagement has been defined from different perspectives based on different media or medium types. For instance, Latulipe, Carroll and Lottridge (2011) explore audience engagement with the performing arts, defining audience engagement as connecting to attention and interest. Meanwhile, Dow et al. (2007) characterize media engagement in terms of 'a person's involvement or interest in the content or activity of an experience, regardless of the medium '(p1476), indicating that the scope mediums through which to create engagement is unlimited.

On this basis, also though we consider that the medium could be games, it could also be books or videos, as can be seen from how readers relate to the characters and stories they are presented within these mediums. This definition can apply to AR game consumption when players are involved in the game context and attracted to it. Whilst this definition is similar to the one of Latulipe, Carroll and Lottridge (2011), it is closer to the conceptualization of AR games as a media product.

A critical research focus in the study of game context and engagement is also implicated in reviewing this relationship from the perspective of the roles of social identification processes. On this point, Calder and Malthouse (2008) indicate that the structure and physical properties of people's bodies determine the types and characteristics of their cognition. Therefore, identity is the process of transitioning from perceptual cognition to rational cognition and then to social practice. In this process, the body is involved in every step. In other words, embodied experience is both the starting point for cognitive identity and the condition for practical identity.

The relationship between identity and embodied experience can be expressed as follows for the communication of video games in network media: the audience's sensory experience replaces the material mechanism for the detailed image of reality, transforming the audience's behavioral experience from a metaphorical expression one to a natural emergence, thus forming a new and universally recognized meaning. This is also in keeping with the concept of embodied communication, which proposes using individual bodily practices as a medium to internalize abstract conceptual categories into social consensus.

Those individuals that are part of a socially defined group, such as team members playing cooperative games, embody their positions within said group. This is a socio-psychological process, in which an individual's personal self-awareness of their membership to the group is determined by their social identity (Bagozzi & Lee 2002; Ellemers, Kortekaas, & Ouwerkerk 1999; Tajfel 1982). On this basis, it can be seen that social identity is composed of three components: cognitive, affective, and evaluative. Specifically, the cognitive component is the awareness of group membership, the affective component is the feeling of emotional involvement in the group, and the evaluative component is the sense of self-esteem derived from being part of the group (Ellemers et al. 1999).

In AR games, the player functions as an immersive tool; their body and actions are an integral part of the game. The clearest illustration of this is how when the player walks in the real world, they also walk in the virtual world. As the player deconstructs the game setting while exploring the unknown in real life, the individual and the avatar merge in the real and virtual worlds. The increased sense of presence allows the individual to enhance their perception of the virtual environment and their own sense of reality in the game.

In this setting, the term immersion denotes the feeling of being immersed in the mediated world. For example, players become immersed in the game when they are obsessed with the game story (McMahan, 2003). Slater et al. (2009) distinguish between immersion and presence: instead of considering immersion as 'presence ' (Lombard and Ditton, 1997), they claim that presence is actually people's reaction to immersion.

From a communications perspective, embodiment refers to the fact that people's perceptions of the world are shaped by their bodily structures and sensory-motor systems. When viewed through this lease, the focus is on the physical design of the individual body and the thinking inertia formed by bodily practices (Morschheuser et al. 2017b). This strengthens the link

between action and perception and moves the recipient from a dependent variable to an independent one.

5. CONCLUSION

In short, we propose that audience engagement in AR games can be addressed by applying the play theory of mass communication involving players and media, which is highly relevant to the content, context and presence of the game. To best achieve player engagement through games, players can go beyond game consumption by interacting with the game content, self-presentation, information management, and rewards. Through a full qualitative analysis, we hope to explore critical aspects of the more effective use of sensory and social elements in AR games that can evoke a sense of presence in the viewer's media consumption process, and thus, influence the audience's media engagement.

Through the findings, we also hope to explore that AR games, as media products, can not only gain identification with the avatar by engaging players in the game, but also create a consumer experience that fosters a long-term relationship by combining their online and offline play and connecting the real and virtual worlds. Therefore, we hope to conclude that AR games are an important medium for encouraging players to engage with the real and virtual worlds in their gaming experience, forming a multidimensional experience for players through AR game content.

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