

## **The Effect of In-game Brand Placement Prominence and Players' Flow Experience on Brand Recall: The Moderating Role of Game Genre**

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### **Abstract**

*This research examines whether the game genre, either role-playing or virtual reality, impacts the effect of brand placement prominence and players' flow experience on players' brand recall. Two hundred and fifty college students participated in a 2 (brand placement prominence: prominent or subtle) × 2 (players' flow experience: high or low) × 2 (game genre: role-playing or virtual reality) between-subject experimental design measure and data were analyzed by between-subject ANOVA to test hypotheses. Results showed that the game genre has a moderating effect on the relationship between brand placement prominence and brand recall while the moderating effect of the game genre was not significant on the relationship between players' flow experience and brand recall. It is suggested that marketers adopt prominent brand placement advertising in a role-playing game will stimulate players to perceive distinct brand recalls.*

**Keywords:** In-game Advertising, Brand Placement Prominence, Flow Experience, Game Genre, Brand Recall

### **1. Introduction**

The brand embedded in video games has been one of the important approaches in marketing for more than two decades. Marketers aspire to expose their brands and plant brand awareness in consumers' mind unconsciously by fun games (Lee & Faber, 2007; Martí-Parreño, Bermejo-Berros, & Aldás-Manzano, 2017; Nelson, 2002) and this method becomes even more prosperous owing to the tremendous large predicted world video game market will grow to a big scale as 74.5 billion EUR in 2016 and continuing to increase as 107.6 billion EUR in 2020 (Michaud, 2016). In addition, the popularity of smartphone and tablet attracts more and more people playing mobile games as a daily routine so that advertising inserted in games or even advergames created by companies become a platform with much more overwhelming influence than traditional advertising media like newspapers, magazines, and television. For example, thirty-six percent of the most frequent American gamers play on their smartphones (Entertainment Software Association, 2016) and hence marketers could not resist the temptation of this crucial tool, the mobile game, by which many companies exhibit their brands, services, and products to consumers. What important for all companies, however, is the consumers' actual purchasing no matter what types of advertisement marketers adopted. The extent for consumers moving from brand recall and recognition to eventual purchasing behavior caused by brand placement in video games have significant differences depending on complicated interaction among various factors such as explicit or implicit placement of advertising contents, players' high or low flow experiences with the games, virtual reality or role-playing games and so on.

Several studies had investigated the effect of prominent and subtle brand placement in video games on players' brand recall (Schneider & Cornwell, 2005; Vashisht & Sreejesh, 2015) and brand attitude (Bambauer, 2006; Cauberghe & De Pelsmacker, 2010) while others examined the influence of flow experience on players' brand recognition (Vermeir, Kazakova, Tessitore, Cauberghe, & Slabbinck, 2014) that associates with brand recall to construct brand awareness (Keller, 1993; Reijmersdal, Rozendaal, & Buijzen, 2012).

Actually, the flow experience affects not only brand recognition but also brand attitude (Bambauer, 2006; Hsu & Lu, 2004; Siemens, Smith, Fisher, Thyroff, & Killian, 2015). Another important factor may affect game players' brand recall and attitude is the different genres of game. Lewis and Porter (2010), Terlutter and Capella (2013), and Gangadharbatla (2016) referred that advertising implanted in role-playing games produce certain degree of persuasion on players allied with other reasons such as the congruity between brand and game, the individual and social factors surrounding the player, and the ways to expose advertisement and to interact with the player. Jin and Phua (2015), on the other hand, explored players' brand placement awareness affected by the interaction effect between players' autotelic need for touch and the tactile stimuli that frequently integrated as part of virtual reality in a haptics-based computer game with in-game advertising. The explosive development of virtual reality within recent five years is stimulating the in-game advertising literally though the idea of this technology has emerged in the market more than two decades. The existing literature has identified the three critical factors, brand placement prominence, players' flow experience, and game genre, to comprehend the relationship with consumers' brand recall for inserted in-game advertising context. However, very few researches focus on the unclear interaction among these elements. It would be interesting to investigate how consumers' brand recall is influenced by the potential complicated collaboration of the three factors at the same time. Thus the present research examines the effects of in-game brand placement prominence (prominent or subtle) and game players' flow experience (high or low) toward players' brand recall and the moderating role of the adopted game genre (role-playing or virtual reality).

## **2. Literature Review**

### **2.1 Game Genre**

There are several different genres of video games frequently adopted as the carrier of in-game advertising such as action games, shooter games, strategy games, role-playing games, and sports games (Terlutter & Capella, 2013). Lewis and Porter (2010) examined the effects of advertising schema congruity in a massively multiplayer online role-playing game (MMORPG). They classified undergraduate student participants into two groups, a congruent group in which participants played an MMORPG containing default fictional billboards and an incongruent group in which participants played the same game with identical conditions but containing real-world advertising instead, and got the results showing that participants from the congruent group perceived higher levels of acceptance of in-game advertising than participants from the incongruent group. What even more important than the congruity between the promoted brands and games, however, is players' interaction with brands in the games because interactivity triggers more elaboration and thus causes better brand recall (Dardis, Schmierbach, & Limperos, 2012). Siemens, Smith, and Fisher (2015) investigated the effects of active control and the moderating role of brand familiarity in a racing-style video game on 223 subjects' brand recall. The results of a 2 (active control: high versus low)  $\times$  2 (modality: visual versus verbal)  $\times$  2 (familiarity: high versus low) between-subjects factorial design experiment showed that the players given high active control to interact with game components sponsored by familiar brands have a better recall than low control (passive exposure on a billboard).

The sole product placements in video games only impact brand recall yet excluding brand attitudes and purchase intentions. In order to get more effective influences on brand attitudes and consumers' purchase intentions, the role-playing games typically tie with brands deeply and provide more player-product interaction is better than in-game advertising with less or without interactivity (Gangadharbatla, 2016). Nevertheless, it is reasonable to suspect that whether studies about in-game advertising thus far are valid for different types of video games? The game genres are usually categorized according to the extent of game-play interaction and most research of in-game advertising focus merely on a single game genre, for example, role-playing games, so that the generalization of those findings for other game genres might be questionable (Terlutter & Capella, 2013). Therefore, the games possessing more interactivity than role-playing games such as virtual reality type games could have similar, or astonishing, influences on the advertising effect.

## **2.2 Brand Placement Prominence**

It has been recognized that the combination of commercials and entertaining dynamic media such as radio, film, or TV would impress consumers more effectively than a printed advertisement (Kretchmer, 2004). The platforms of brand placement have penetrated to video games gradually around 1990s other than traditional media (Gillen, 1995). Nelson (2002) explored the extent of brand recall after a different length of time delays as respondents played a game with implanted brands. His research showed that game players still recall brands about 10 to 15 percent even after a long period. The effectiveness of brand recall was significant when brand placements were a major part of game-play, brands were local or new, brands were atypical appearing in games, or brands were relevant to the players. Whether the brand placements belong to a major part of the game or not have been defined and classified as prominent or subtle placement. The advertising of brands exhibiting in a highly visible size or position involved in the game screen is a prominent brand placement while a relative smaller brand identifiers appearing in the peripheral region or even background is a subtle brand placement (Gupta & Lord, 1998).

Prior research on brand placements in games revealed that prominent in-game advertising resulted in higher brand recall than subtle in-game advertising (Cauberghe & De Pelsmacker, 2010; Schneider & Cornwell, 2005). Specifically, Schneider and Cornwell (2005) argued that in addition to the understanding of brand placement prominence, a comprehension of the interactivity of the advertising medium is also crucial to realize the relationship between brand placement and game players' brand recall. It seems that the virtual reality games may cause players perceiving more immersing involvement so that the virtual experience with a brand for players with low prior brand experience or knowledge can produce stronger influence in brand attitude and purchase intention (Dardis et al., 2015). Yet the extent of influence on brand recall compared between role-playing and virtual reality in-game advertising is still unclear, though the role-playing games are still dominant in the market today than virtual reality games. While the influence of two types highly interactive in-game advertising, the role-playing and virtual reality games, on brand recall, have been investigated, very few studies compare the different impacts of these two types of games simultaneously. Based on these arguments, this study suggests a hypothesis as:

H1. For the advertising embedded in role-playing games, the prominent brand placement results in a higher brand recall than the subtle brand placement, while for the advertising embedded in virtual reality games; there is no significant difference in brand recall between the prominent and the subtle brand placement.

## **2.3 Flow Experience**

Another critical factor influences game players' brand recall is a mental involvement and enjoyment in the game scene called flow experience. The theory of optimal flow was developed by Csikszentmihalyi (1990) to describe "the state in which people are so intensely involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it even at great cost, for the sheer sake of doing it.". However, there is not a commonly accepted definition of flow when this concept was investigated related to digital games. Hsu and Lu (2004) argued that flow is online game players' extremely enjoyable experience as they engage in the games with total involvement, enjoyment, control, concentration, and intrinsic interest. As a result, when brands are placed in games, the players recognize a sensation of control in the virtual world and enjoy a condition of focused attention and exciting challenge from the games and hence have higher recall and recognition of brand names unconsciously (Schneider & Cornwell, 2005). Bambauer (2006) studied the effects of brand placement in video games on the change of the attitude toward the advertised brand. Data were collected from each of the 90 participants who evaluated four brands by first indicating their attitude toward the placed brands, playing the game about fifteen minutes, and then filling questionnaires to measure the attitude toward the game, flow experience, and the attitude toward the brand placement in the game. He found that game players would experience a psychic state, known as flow, like a delusion of being in a real world by interacting with a virtual environment and this mental state results in a positive attitude toward the game and in turn cause a more intense of a positive attitude toward the placed brands. Vermeir et al. (2014) also reported that a higher level of flow experience arouses an immersion situation in the game so that players lose awareness of their physical and mental surroundings, self-concern or any sense of time and lead to higher brand recognition and attitudes. While different from the virtual involvement and interactivity focused game, how the role-playing games moderate the effect of players' level of flow experience on brand recall has not often been studied, thus we presumed that

H2. For the advertising embedded in virtual reality games, players perceive a high level of flow experience results in a higher brand recall than players perceive a low level of flow experience, while for the advertising embedded in role-playing games, there is no difference in brand recall between players perceived the high and low level of flow experience.

### **3. Methodology**

#### **3.1 Sample and Experimental Design**

A 2 (brand placement prominence: prominent or subtle)  $\times$  2 (players' flow experience: high or low)  $\times$  2 (game genre: role-playing or virtual reality) between-subject experimental design was used to explore the presumed relationships between variables. Two hundred and fifty randomly selected students who have had experiences playing some rather than all of the six chosen video (PC) games from a university in Taiwan were the participants in an experiment. Respondents were required to select one of the six chosen games embedded with brands already. After playing the video games for 15 minutes, participants were asked to answer the questionnaire with items measuring the flow experience and to list the brands they remembered. The six chosen video games, three role-playing (HSUAN YUEN CHIEN, Maplestory, and The perfect world II) and three virtual reality (Freestyle, Crazyracing, and NBA 2K13), with prominent or subtle brand placement were chosen according to the statistics of two large gaming forums in Taiwan, Gamebase (<http://www.gamebase.com.tw>) and Gamer (<http://forum.gamer.com.tw>).

#### **3.2 Measurement**

Three independent variables in this study are brand placement prominence, players' flow experience, and game genre. The brand placement prominence classified as prominent or subtle and game genre selected by players as role-playing or virtual reality are manipulated variables and players' flow experience is a measurable variable measured by fourteen 5-point Likert scale items (Refiana, Mizerski, & Murphy, 2005). Respondents with a mean score of flow experience higher than the total mean ( $\alpha = 0.91$ ,  $M = 3.402$ ,  $SD = 0.771$ ) were treated as a high level of flow experience while a mean score of flow experience lower than the total mean was treated as a low level of flow experience. The dependent variable brand recall was measured by requiring respondents to mention the names of brands that appeared during the game playing (Nelson, Yaros, & Keum, 2006). Depending upon the game played by respondents, the number of inserted brands ranged from one to three. For each participant, the brand recall increased by one if the participant listed an advertised brand correctly and kept zero or unchanged if the participant failed to list the advertised brand name. Therefore, the brand recall has values from zero to three.

### **4. Results**

A 2  $\times$  2  $\times$  2 between-subjects ANOVA with brand recall as the dependent variable and brand placement prominence, players' flow experience, and game genre as the independent variables. The interaction effect between brand placement prominence  $\times$  game genre showed a significant result ( $F = 23.637$ ,  $p = 0.000$ ) and the focused contrast test revealed that role-playing in-game advertising resulted in a higher brand recall for prominent than subtle brand placement ( $F = 29.041$ ,  $p = 0.000$ ,  $M_{\text{prominent}} = 0.955$ ,  $M_{\text{subtle}} = 0.851$ ). Furthermore, the examination of virtual reality in-game advertising does not make any significant difference on the brand recall between prominent and subtle brand placement ( $F = 1.014$ ,  $p = 0.464$ ,  $M_{\text{prominent}} = 0.882$ ,  $M_{\text{subtle}} = 0.888$ ). All above results confirmed the H1. Other interaction effects between players' flow experience  $\times$  game genre ( $F = 1.159$ ,  $p = 0.283$ ), brand placement prominence  $\times$  players' flow experience ( $F = 0.01$ ,  $p = 0.921$ ), and brand placement prominence  $\times$  players' flow experience  $\times$  game genre ( $F = 0.09$ ,  $p = 0.765$ ) gave insignificant results. Hence the H2 was not supported. However, the one-way ANOVA for players' flow experience exhibited a significant difference ( $F = 7.673$ ,  $p = 0.006$ ) that players with a high level of flow experience ( $M_{\text{high flow}} = 0.906$ ) prompted a higher brand recall than players with a low level of flow experience ( $M_{\text{low flow}} = 0.878$ ). Similarly, the one-way ANOVA for game genre also reported a significant difference ( $F = 5.272$ ,  $p = 0.024$ ) that participants playing virtual reality games ( $M_{\text{virtual reality}} = 0.888$ ) indicated a higher brand recall than participants playing role-playing games ( $M_{\text{role-playing}} = 0.851$ ).

### **5. Discussion and suggestion**

This research explored whether the interaction effect of brand placement prominence, players' flow experience, and game genre affect players' brand recall.

The testing results showed that role-playing in-game advertising can cause a better brand recall in prominent than subtle brand placement while virtual reality in-game advertising does not present apparent difference of brand recall in either prominent or subtle brand placement. This result demonstrates that the game genre has a moderating effect on the relationship between brand placement prominence and brand recall. On the other hand, however, the moderating effect of game genre on the relationship between players' flow experience and brand recall was not approved as predicted, though without considering the effect of game genre, the players perceived high level of flow experience possessed a higher brand recall than players perceive lower level of flow experience. It perhaps because the extent of interactivity (Siemens, Smith, & Fisher, 2015) for the role-playing and virtual reality games did not exist substantial difference, players' perceived level of flow experience did create distinct impacts on brand recall but the magnitude of influence was not as strong as the brand placement prominence moderated by game genre. Hence, it is suggested that marketers adopt prominent brand placement advertising in a role-playing game will stimulate players to perceive distinct brand recalls.

There are several limitations should be noted in this study. First, the sample set included Taiwanese college students only that were less variant than a random sample set. Sample players with different age intervals, occupations, races, cultures, and from different countries are more preferable to retest current findings to get more generalized conclusions. Second, the choices of the game came from two most popular game societies in Taiwan depended on game genre and brand placement prominence. According to online statistics and experimental needing, researchers were enforced to select certain games rather than controlled and adjusted game attributes actively that may not be the most appropriate choice. The customized games satisfying experimental requirements would be researchers' dreams. Third, the varieties of either role-playing or virtual reality games were not enough so that results of this study need to be further verified by more kinds of games such as action, racing, shooting, strategy, and sports.

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