Effectiveness of In-Game Advertisement: Repetition Effect of Sport Video Gaming

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Marketing Abstract 2016-184

Friday, June 3, 2016 1:40 PM Poster (Legacy North)

With the increasing popularity of sport video games (SVG) as a form of entertainment (Broverman, 2010), SVG has captured the attention of marketers and advertisers searching for an innovative and effective medium to communicate with consumers about their products and services (Chaney, Lin, & Chaney, 2004; Nelson, 2002). In-game advertisement (IGA) refers to the incorporation of advertisement into computer and video games. There has been increasing interest among researchers in the effectiveness of SVG as an advertising medium. Specifically, this line of research has examined the rate of brand recall and recognition in SVG (Cianfrone et al., 2008; Glass, 2007; Walsh, Kim, & Ross, 2008). However, these studies have generally examined the effectiveness of IGA without considering the effects of repeated video gaming. Consequently, they did not examine how IGA affects consumers’ memory, brand attitude, and behaviors in a more realistic exposure environment where gamers play a game more than once (Kim, 2010). Accordingly, the purpose of this study is to examine whether repeated exposure to brands in SVG affects brand awareness (recall and recognition), brand attitudes, and purchase intention; and to examine the relationship of gaming skills and different types of in-game advertising with the rate of recall and recognition of in-game advertisements.

The limited capacity model and repetition theory as theoretical frameworks are used in the current study. The model posits that individuals have a limited capacity in processing cognitive information (Lang, 2000). This suggests that SVG users have to allocate cognitive resources between playing a game and processing other peripheral information due to their limited capacity for processing information. Thus, recall and recognition rates of in-game advertisements are not only affected by the frequency, duration and nature of exposure, but also the gamer’s familiarity with the advertised brand and the gamers’ proficiency in playing the game.

In advertising literature, many studies have provided evidence for the effects of advertising repetition on cognitive structure elements such as beliefs, attitude and behavioral intention (e.g., Campbell & Keller, 2003). As such, advertising repetition stimulates cognitive evaluation about the product in advertising, which in turn influence attitudes toward the product. These findings in advertising research suggest that it is important to consider repetitive video gaming in examining the effectiveness of IGA.

Previous research on IGA has shown cognitive effects of user-specific factors (gaming skills) and context-related factors (types of in-game advertising execution). Specifically, gamers’ proficiency in playing the game and the presentation of advertisement messages had significant effects on the extent of recall and recognition of in-game advertisements and brand attitudes (Dardis, Schmierbach, & Limperos, 2012; Lee & Faber, 2007; Schneider & Cornwell, 2005). Although several contextual-related factors have been used to study IGA effectiveness, including types of IGA execution, the need to understand these effects at the individual level suggests the joint effects of gaming skills and types of executions (e.g., Kuhn, 2008). Thus, it is imperative to further examine how different type of IGA execution affects the way gamers process IGA across level of gaming skills.

For the purpose of this study, an experimental design was used. A total of 270 undergraduate students were recruited from a medium-size East Coast university in the United States through classroom announcements. The majority of the respondents were single (92.6%), White/Caucasian (70.1%), and male (81.5%). 175 participants (64.8%) reported total household incomes between $50,000 and $120,000. All of the scales were adopted from previous research with some modifications (Nelson, 2002; Peterson, Wilson, & Brown, 1992; Conner & Norman, 2005; Kempf & Smith, 1998; Novak, Hoffman, & Yung, 2000). To establish the validity and generalizability of the findings, three different sport-themed video games (Madden NFL 25, NBA Live 14, FIFA 14) were used as test materials. Based on the pilot test results, this study created three experimental conditions (one, three, and seven exposure to SVG).

This study shows that repetitive game play have a significant and positive effect on brand recall and recognition rate, attitudes towards the brand, and intention to purchase the brands. For example, participants who played Madden NFL 25 correctly recalled an average of .73 brand (S.D. = .58), 1.66 (S.D. = .66) and 2.27 (S.D. = .64) for one, three,
and seven exposure conditions respectively. The ANOVA results revealed there was a significant effect of repetitive gaming on the recall rate, $F(2, 87) = 45.30, p = .000$. Regarding brand recognition rates, the results of the ANOVA test indicated significant difference in recognition rates among experimental conditions, $F(2, 87) = 34.28, p = .000$. The results of the ANCOVA test indicated that there was a statistically significant difference at the $p < .05$ level in brand attitude scores for the experimental conditions, $F(2, 76) = 16.86, p < .001, \eta^2 = .307$. Similarly, the correct brand recall and recognition rates and brand attitudes for those who played NBA Live 14 or FIFA 14 in the single exposure condition were lower than those in the three or seven condition. In addition, the findings suggest that the cognitive effects of gaming skills depend on in-game advertising type.

The current study extends the line of research on in-game advertising by focusing on repetitive video gaming and perceived gaming skills as a relevant construct. This is important because unlike movies and television programs, video games are usually played more than once. Gamers are thus exposed to the advertisements repeatedly for a prolonged period of time (Nelson, 2002; Schneider & Cornwell, 2005; Walsh, et al., 2008). As such, this study addresses the limitations in previous studies by measuring the recall and recognition rates of IGAs beyond the participants’ initial exposure to the game. In addition, the study provides several managerial implications for marketing communication practitioners. The results suggest that marketers and advertisers should use the type of dynamic advertising to maximize their brand awareness levels among SVG users. The IGA execution requires gamers to interact with brands or products in the games. These types of advertisements (dynamic advertising) will be more effective for the corporations that are seeking for brand awareness.