

The Obama Effect: An Exploratory Study on Factors Affecting Brand Recall in Online Games

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Abstract—The aim of this research is to establish the extent of the effectiveness of in-game advertisements in online games. A sample of 30 respondents between the ages of 18 to 25 years of age was selected for the study. Respondents played an online game and completed a questionnaire designed to establish the recall rate of in-game advertisements. The findings suggest that the number of advertisements in a game, location of the advertisements and familiarity with the brand had an effect on brand recall rate although perceived pace of game had a moderating effect on the rate of recall of advertisements.

Index Terms—Online Games, In-Game Advertisements, Brand Recall

I. INTRODUCTION

Marketers are constantly seeking new avenues to reach their target audience. In recent years, commercial organisations have started to take an increased interest in promoting their brands through the use of in-game advertisements or product placements in video games¹.

In 2006, spending on in-game advertisements globally was US\$78 million and was estimated to grow to nearly US\$1 billion by 2011². The fact that in the 2008 United States Presidential Elections, then Presidential Candidate Barack Obama bought advertisement space in 18 games including Guitar Hero, Madden 09 and Need For Speed in his presidential bid for a sum of nearly US\$45,000 suggests that in-game advertisement is not just a new advertising fad but a serious business³.

In addition, the game industry has been undergoing major structural changes. For example, the growth of free online games, eg Asiasoft's Maple Story, had required the industry to consider innovative ways to generate revenue. While the use of pre-paid cards to augment the games had been the most popular way to generate revenue to date, in-game advertisements clearly has the potential to offer another means to generate revenue for such games. Indeed, the recent explosion of free FACEBOOK and other social networking games suggest that the use of in-game advertisement as a source of revenue is very real.

Unfortunately, the effectiveness of in-game advertisements had not been studied to a great extent. The aim of this research is to establish through the use of an experiment the extent of the effectiveness of in-game advertisements.

II. LITERATURE REVIEW

The research on effectiveness of in-game advertisements had been sparse. Still, advertisers had considered that because gamers spend a long time on the games, the repeated exposure of advertisements in a game through prolonged play is likely to cause gamers to remember the brands appearing in a game and subsequently develop a positive attitude towards the brands. In addition, like product placements in more traditional media, gamers cannot skip or turn off the advertisements. They are a captive audience for the advertisements. Herein lies the promise of in-game advertisements for advertisers.

Obviously, it must also be considered that because games require involvement from gamers, it is possible that gamers may not notice the advertisements in order to concentrate on the game. Indeed, this may explain why recent studies have generally concluded that the rate of unaided recall for in-game advertisements had been disappointing at below 20%⁴⁻⁵.

Besides the level of involvement in the game, studies have also shown that the rate of recall for in-game advertisements is also affected by the placement of the advertisement and the product category of the advertised brand⁵⁻⁶. Advertisements that appear in situations or locations that are central to the game are recalled at a higher rate than those that are peripheral to the game. For example, in racing games, where the advertisements appear near the car, such advertisements are more likely to be remembered than those advertisements which are further removed from the car⁵.

The type of product category of the advertised brand also had an effect on the recall rates although the effect is rather interesting. Advertised brands that were from a product category that is incongruent with the nature of the game had a higher rate of recall than brands from a product category that is congruent with the game. For example, recall rates for pet food brands, a product category that is incongruent with a car racing game, is higher than recall rates for gasoline brands, a product category that is congruent with a car-racing game. As incongruent product categories were unexpected and hence perceived as novel, they attracted the attention of gamers more than congruent product categories.

III. METHODOLOGY

The game selected for this study was "Crash Course Football" available on popular online game website Miniclip.com. This game was selected because it was similar

to football, a popular sport in Singapore. This will be easier for respondents to understand the objective of the game and to concentrate on the game. In addition, the fact that the game is freely available online adds a sense of realism to the study. The objective of the game is to drive a car around a

football pitch and to push a football into one of the two goal posts. Figure 1 below shows an image of the game that is found on the website.



Fig. 1: Image of Game “Crash Course Football”

As can be seen from Figure 1, various advertisements are placed around the football pitch. Figure 2 below show the placements of the advertisements around the football pitch.

	J	L	F	L	K	L	S	L	J	
L	Pitch									L
S										S
L (Goal)										L (Goal)
K										J
L										L
	F	L	J	L	S	L	K	L	F	

- L - Ladbrokes.com
- F - Fosters
- J - John Smith's
- K - Kronenbourg
- S - Strongbow

Fig. 2: Placements of Advertisements

A convenient sample of 30 respondents between the ages of 18 to 25 years of age was selected for the study. Respondents were not informed as to the real objective of the

research. They were given instructions on how to play the game and were asked to obtain as high a score as possible in the game. Each respondent was only allowed to play one game.

Throughout the game, a member of the research team was on hand to answer any queries by the respondents and to ensure that the experiment is carried out according to the research design. The same laptop is also used for all the experiments to control for differences due to hardware.

At the end of the game, respondents are required to complete a short questionnaire to test respondents' ability to recall the advertisements in the game. The questionnaire also included questions on the demographic profile of the respondents and the gamers' perceptions of the game to test for mediating factors in the rate of recall of the advertisements.

IV. FINDINGS & DISCUSSION

Concurring with earlier studies, the rate of unaided recall of advertisements in the game was low. Only 40% of the respondents remembered any advertisements correctly with 13.3% of the respondents remembering 2 of the 5 brands. More importantly, more than half (53.3%) did not even remember any brands in the game (see Table 1).

TABLE 1. RESULTS OF EXPERIMENT

	2 correct brands	1 correct brand	Incorrect brands	Did not remember any brands
No. of Respondents	4 (13.3%)	8 (26.7%)	2 (6.7%)	16 (53.3%)

Males had a slightly higher recall rate of advertisements (mean = 0.6154) as compared to females (mean = 0.4706). However, t-test showed that the difference is not significant at $\alpha = 0.05$ (see Table 2).

TABLE 2. COMPARISONS OF BRANDS RECALLED BETWEEN GENDERS

	<i>Male</i>	<i>Female</i>
Mean	0.6154	0.4706
Variance	0.5897	0.5147
Observations	13	17
Df	25	
t Stat	0.5265	
P(T<=t) two-tail	0.6032	
t Critical two-tail	2.0595	

The literature suggests that the level of involvement in a game and prior game experience had an effect on the rate of recall of advertisements. In this study, proficiency in the game as measured by whether gamers scored a goal in the game was used as a proxy for game involvement and prior game experience. It was expected that as gamers are more involved in the game, they will do better in the game.

Similarly, prior game experience is likely to translate into goals in the game.

Respondents who were more proficient in the game had a higher rate of recall of advertisements (mean = 0.7273) as compared to respondents who were less proficient (mean = 0.4210). However, this difference was not significant at $\alpha = 0.05$ (see Table 3).

TABLE 3. COMPARISONS OF BRANDS RECALLED BY PROFICIENCY IN GAME

	<i>No Goals</i>	<i>With Goals</i>
Mean	0.4210	0.7273
Variance	0.4795	0.6182
Observations	19	11
Df	19	
t Stat	-1.073	
P(T<=t) two-tail	0.2967	
t Critical two-tail	2.0930	

Four Likert-scale questions were included in the questionnaire to examine if perceptions of the game had a moderating influence on the rate of recall of advertisements. The areas that were of interest were the level of excitement, the pace, quality of graphics and the difficulty of the game. Other than perceptions of game pace ($t = -4.362, p < 0.05$), other perceptions of the game did not have a significant impact on the rate of recall of advertisements. Details are produced in Table 4 below.

It is interesting to note that respondents who find the game pace faster had a higher rate of recall of advertisements. It is

expected that if game pace is perceived to be faster, then the rate of recall of advertisements should be lower as gamers will spend more of their attention to the game. Noting that excitement of the game had a positive effect, though not significant, on the rate of recall of advertisement, it may suggest that game pace and excitement may cause gamers to be more interested in the game and hence be more aware of the advertisements in the game. Conversely, if the game pace is too slow or boring, respondents may not pay too much attention to the game or its advertisements. This remains a hypothesis and there is a need to test this in future studies.

TABLE 4. COMPARISONS OF BRANDS RECALLED BY PERCEIVED GAME CHARACTERISTICS

	<i>Excitement</i>		<i>Pace</i>		<i>Graphics</i>		<i>Difficulty</i>	
	<i>Boring</i>	<i>Exciting</i>	<i>Slow</i>	<i>Fast</i>	<i>Dull</i>	<i>Colourful</i>	<i>Easy</i>	<i>Difficult</i>
Mean	0.5	0.625	0	0.6957	0.5769	0.25	0.6667	0.4762
Variance	0.4524	0.8393	0	0.5850	0.5738	0.25	0.75	0.4619
Observations	22	8	7	23	26	4	9	21
Df	10		22		5		12	
t Stat	-0.3529		-4.362		1.1242		0.5869	
P(T<=t) two-tail	0.7315		0.0002*		0.3120		0.5681	
t Critical two-tail	2.2281		2.0739		2.5706		2.1788	

In order to examine if the placement of advertisements had an effect on the rate of recall of advertisements, further analysis by the brand recalled showed that of the 12

respondents who remembered at least one brand in the game, 11 of the respondents remembered the brand Ladbrokes.com. The other advertisements were recalled at a much lower

incidence rate. Table 5 below presents the results.

TABLE 5. COMPARISONS OF BRANDS RECALLED AND NUMBER OF ADVERTISEMENTS IN GAME

	Ladbrokes.com	Fosters	Kronenbourg	Strongbow	John Smith's
No. of Respondents	11	2	0	1	2
No. of advertisements	14	3	3	4	4

It must be noted that Ladbrokes.com had the largest number of advertisements in the game compared to the other brands. Their advertisements are all round the football pitch, alternating with that of other brands. Hence, this larger number of evenly distributed advertisements throughout the pitch may have increased the exposure of the brand to the respondents and subsequently affected the ability of the respondents to recall the brand.

More importantly, Ladbrokes.com had also placed advertisements behind both goalposts. Players are likely to spend a significant amount of time at the goalpost trying to score a goal. Hence, the exposure duration to Ladbrokes.com advertisement at the goalposts is likely to be higher than at any other location and may have also affected the ability of respondents to recall the brand.

The higher rate of recall of the Ladbrokes.com brand in this study thus concurs with the prevailing theories on the placement of advertisement having an influence on brand recall rates. Brands that are advertised throughout the game, through the effect of repetition, have a higher rate of recall than brands that are sparsely distributed in the game. In addition, advertisements that are placed in locations that are central to the game have a higher rate of recall than advertisements that are placed in locations that are peripheral to the game.

Interestingly, while both Fosters and Kronenbourg had 3 advertisements, 2 of the respondents remembered Fosters while none remembered Kronenbourg. Considering that Kronenbourg had an advertisement near the goalpost while Fosters had none near the goalposts, this finding becomes even more interesting. One of the possible reasons for respondents' ability to recall Fosters over that of

Kronenbourg is that respondents are more familiar with the Fosters brand. Fosters is sold in Singapore by one of the two major supermarket chains while Kronenbourg is not sold by any of the major supermarket chains.

Similarly, although to a lesser extent, John Smith's slightly higher recall rate as compared to Strongbow with the same number of advertisements could also be attributed to the same reasoning. John Smith's is sold in Singapore but not for Strongbow. Again, it has to be noted that Strongbow had 2 advertisements near the goalposts and John Smith's only had one.

The above discussion suggests that perhaps familiarity with the brand is a pre-requisite before recall of the brand can take place. Whether consumers notice advertisements is dependent on the nature of the stimulus, and consumers' expectations and motives at the time of exposure to the advertisement⁷. Even if the advertisement occurs more frequently and at a location that is central to the game, if consumers have no prior experience with the brand, they are not likely to notice or recall the brand.

To explore if there is indeed a relationship between the familiarity of a brand with the rate of recall of advertisements, respondents were categorised into whether they engage in betting behaviour and consumption of alcoholic beverages. Interestingly, for both groups of respondents who do not engage in betting behaviour and consumption of alcoholic beverages, the rate of recall of advertisements was higher than for respondents who engage in both types of behaviour although the difference was not significant at $\alpha = 0.05$ (see Table 6). It is unclear as to why this should be so and this merits further study.

TABLE 6 COMPARISONS OF BRANDS RECALLED BY BETTING AND ALCOHOLIC CONSUMPTION BEHAVIOUR

	<i>Non-Bettors</i>	<i>Bettors</i>	<i>Non-Drinker</i>	<i>Drinker</i>
Mean	0.5417	0.5	0.8182	0.3684
Variance	0.5199	0.7	0.5636	0.4678
Observations	24	6	11	19
Df	7		19	
t Stat	0.1120		1.6329	
P(T<=t) two-tail	0.9139		0.1189	
t Critical two-tail	2.3646		2.0930	

V. CONCLUSION

The above discussion suggests that while the number of advertisements in a game has an effect on brand recall through repeated exposure, another factor that is important is the location of the advertisements. Having an advertisement at a critical juncture in the game, in this case near the goalpost, has a positive impact on the respondents' ability to recall an

advertisement.

However, it will seem that it is a pre-requisite that respondents are familiar with the brand before recall can happen although this will require further study. Still, it suggests that for advertisers, it is not only about ensuring a large number of advertisements in the game or have an advertisement appearing at critical junctures in the game, but also in careful selection of a game that has a target market

that is at least familiar with the advertiser's brand before a commitment to advertisements in a game is made.

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