

THE INFLUENCE OF INTERACTIVITY ON CONSUMER ATTITUDE OF ADVERTISING IN VIDEO GAMES

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Abstract:

Progress of new digital technologies has led to a new type of consumer, more dynamic and difficult to satisfy, which made the efficiency of the old promotion methods to decrease. Marketers who are looking for new ways to reach their audience found in online video games a reliable ally. Previous studies that have been conducted internationally showed that advertising through online games and delivering promotional messages in the virtual space mediated by Internet technology has a high degree of acceptance from the public. In Romania such studies are lacking, and this gap in the literature led to the need to study the potential that promoting in video game has on consumers from this market. In this paper we present some of the results of a larger quantitative research, which has investigated several aspects that influence consumer attitudes towards video games with advertising content, focusing on the factor with the most strongly impact - interactivity. The study used self-administered online questionnaire method to collect primary data that were further analyzed by descriptive statistical methods and factor analysis. The results revealed that in general the consumers from Romania have a positive attitude towards advertising presented in video games and the interactivity given by the game construction that allows the manipulation of branded objects during a play session has a direct and positive influence on the attitude.

Key words: interactivity, consumer's attitude, video game, advertising in online games

JEL classification: M 37

1. INTRODUCTION

With the development of technologies and electronic data storage systems, the whole media-based online technologies has changed radically, integrating more and more interactive properties. Increased access to new possibilities for relaxation and leisure led consumers to spend more and more time online, searching for information or applications, at the expense of traditional media, especially television.

Marketers interested in finding alternatives to traditional media felt that video games have a great potential to convey the advertising message in a form that has a stronger effect on online consumers (Dawidowski, 2002).

In the last decade, combining new technologies with specific online video games have given rise to new opportunities for interaction between brand and customer, becoming a practice used increasingly worldwide (Gao et al., 2011). Advertising in video games is a form of branded entertainment that a company transmits interactive brand message to its audience (Wise et al., 2008). Advertising of this type can gather data about potential customers and have an increased capacity to influence consumer behavior (Lu, 2010).

Information about a brand integrated in an online game may take the form of mascots, avatars, objects or symbols, the entire game being designed around the promoted brand and the message is intended to be sent to the audience (Wise et al., 2008).

Transmission of information through interactive advertising is more effective than if the same information would be transmitted passively, such as using a TV or radio spot (Baumann & Sayette, 2006). Experience with a product in interactive environment and user feelings of being intermediated „in the real world” lead to increased sales for a product integrated into an online game (Papadopoulou, 2007).

During a play session of an online game of this kind, users have the possibility to actively control the action and sequence of events presented in the game, making each game a unique

experience (Scharl et al., 2005). Video games with advertising content can incorporate branded items which help users to better understand the particular characteristics and use of a product or service, while they play the game. From this point of view, the information provided through a video game has influence on consumers' perception of the presented product, that could be considered more attractive than the offer of the competition (Saadeghvaziri & Hosseini, 2011).

Product placement in video games and other media formats has the purpose of presenting information about the characteristics of the brand in order to create positive associations between the brand and the content of the game (Pardun & McKee, 2000). Product placement in video games can be done visually when the brand is placed on the screen and is visible on its outline, in the script when the brand is mentioned verbally or in action, or when the brand is embedded in the story and the player has control directly on him (Russell, 2002). The interactive elements contained in the video game can make the participation level of the user to grow and he will continue to play for a long time.

2. BACKGROUND

Studies regarding online advertising addressed the consumers' attitude towards online commercials in general and the interactive possibilities offered by this type of advertising in particular. Some authors (Raney et al., 2003) have suggested that prolonged exposure to an online advertisement may result in generating a positive attitude because of familiarity with the brand. Authors also showed that emotional involvement due to the interactive format of a brand, enhance the positive attitude of people towards the brand that has been presented. The study concluded that if the level of interactivity is increasingly higher it will produce more intense appreciation and sympathy of that advertisement and towards the website that contains it.

Unlike other forms of advertising, the adverts placed in video games are more enjoyable for users and more easily accepted by them (Ipe, 2008). In many previous studies about advertising in online games, the authors identified specific aspects of those games that can positively influence consumer attitudes toward advertising of this type (Wise et al., 2008). One of the most important factors identified is the interactivity of advertising insertions in the virtual space of video games.

Previous literature (Grigorovici & Constantin, 2004; Nelson et al., 2006; Lee & Faber, 2007) researched in particular the effects of static insertions such as billboards, branded objects and game backgrounds. The effect of this type of insertion was observed to be quite weak because many players tend to ignore these advertisements.

Previous research found that consumer response is faster and more positive in the case of dynamic advertisements than for the static ones (Li & Bukovac, 1999). This effect is due to the fact that dynamic insertions create possibilities for enhanced interaction with higher effects on the attitude of players (Lee et al., 2009). At the same time, the dynamic integration of products in video games environment can lead to increased interest in the use of the advertised product, while virtual product experience can affect consumer attitudes towards real product (Lee & Shen, 2006; Mallinckrodt & Mizerski, 2007).

Other studies have shown that between the level of interactivity of an advertisement and attitude towards the advertised product or brand is a positive relationship (Sundar & Kim, 2005). These studies show that the integrated dynamic advertising in video games has the potential to develop positive attitudes towards the brand and increased interactivity leads to a greater efficiency in delivering the brand message. This effect is emphasized in special cases such as when a player can visit a virtual store in a video game and can buy an object, or when he is driving a virtual car of a real brand (Lee et al., 2009).

The authors have shown that media which can provide a similar experience with the real one can stronger influence the attitude formation than media which can not provide such an experience (Coyle & Thorson, 2001; Molesworth, 2006). From this point of view, the information provided through product placement in video games have positive effects on users only when insertions are credible and realistically placed (Gupta et al., 2000). In other opinions, the positive effects of

product placement in online games are directly linked to players' perception of the value that advertising brings to the game (Herandez et al., 2004).

Most often, the investigations that have been conducted so far on the effects of advertising in online games indicated that players easily remember the brands encountered in a video game and often exhibit a favorable attitude towards such brands (Ipe, 2008).

Some studies have found that advertising in video games have a negative impact on consumer attitudes toward the game. In addition, players who believe that video games are intrusive ads have a more negative attitude towards the advertised brand than other players (Hernandez et al., 2004). This however is considered valid only for static advertisements; by adding interactive components and additional features, dynamic insertions can positively influence users' attitude towards that game (van Reijmersdal et al., 2010).

These results support the idea that the dynamic approach to product placement in video games is more effective than static approach when seeking emphasizing awareness and enhancing positive feelings towards the brand (Küster et al., 2010).

3. INTERACTIVITY INFLUENCE ON PERCEPTION OF CONSUMERS FROM ROMANIA TOWARDS ADVERTISING IN VIDEO GAMES

3.1 PRELIMINARY ASPECTS

A preliminary qualitative study about aspects influencing Romanian consumer attitudes toward advertising in online games has identified that interactivity is one of the most striking aspects influence over consumers (Ghirvu, A., 2013). The possibilities in creating unique and attractive messages offered by online games determines many consumers to prefer this type of presentation of the branded message in favor of traditional promotion.

In this paper, we aim to check quantitatively to what extent interactivity influence consumer attitudes towards advertising in online games for consumers in Romania. The objective that we propose is to identify the relationships established between the interactivity of an online video game and consumer attitudes towards advertising in online video games, and direction and intensity of these relationships. Also, we are looking to see if demographic factors such as gender and age influence consumer's attitude. Based on this objective we set three hypotheses:

H1: Interactive properties of an online video game that has advertising content influence consumer attitudes towards advertising in that video game.

H2: Consumer attitude towards interactive properties of an online video game is influenced by the demographic variable gender.

H3: Consumer attitude towards interactive properties of an online video game is influenced by the demographic variable age.

3.2 THE RESEARCH PROCESS

In this study we chose the method of online survey research, and we used self-administered online questionnaire as instrument for primary data collection. The research methodology selected is summarized in Table no.1:

Table no.1: Research methodology

| | |
|--------------------------------|--|
| Type of research | quantitative |
| Research method | online survey |
| Instrument for data collection | self-administered online questionnaire |
| The measuring instrument | 7-point Likert scale |
| Sampling | By convenience, snowball method |
| Sample volume | 348 persons |
| Target group | People with age between 15-45 years |
| Research universe | România |

| | |
|---------------------------|--|
| Analyse process | <i>descriptive statistical methods and factor analysis</i> |
| Period of data collection | 10.03 – 13.04. 2013 |

Source: Developed by author

Primary data collection was done in a more extensive research that has investigated several aspects of the impact on consumer attitudes in Romania, data collected through self-administered online questionnaire method, containing statements on which respondents were asked to express their opinion on a 7-point Likert scale (Likert, 1932). Sampling method was non - probabilistic by convenience - snowball method, based on list of online groups of students from Babes-Bolyai University of Cluj-Napoca and a personal e-mail list containing persons belonging to the target group. This method assumed that respondents make recommendations to others who belong to the group of interest by sending the link to the site where it was placed the questionnaire.

The target group included individuals who meet simultaneously several criteria:

- Participants are people from Romania or with Romanian nationality;
- Age of participants should be between 15 and 45 years;
- The participants have a minimum activity online, a criterion met by the fact that participants have an e-mail account through which they could be contacted.

The contact of participants was done by following the approach proposed by Dillman et al. (2009), which considers that using a personalisez and repeated approach will lead to an increased response rate, and the persons invited to participate will be more willing to be part of that survey. Following this approach, data collection included three step in contacting the participants:

1. Persons from the selected personal e-mail list were adressed by name, and the persons from the students groups were adressed in a general maner; both of this categories of participants were invited to participate at a study conducted for a doctoral thesyes;
2. Every sent e-mail contained a link to the web site including the questionnaire and were they could directly respond - <http://jocuri.awardspace.info/>;
3. After three weeks from the first contact was sent a reminding e-mail for participating at this survey.

Collecting and recording took place over a period of five weeks (10.03 - 13.04. 2013). To achieve the website and recording technology responses in a database, was approached an IT specialist who handled the proper functioning of the software part.

After the distribution of the questionnaire, there was recorded a number of 356 completed questionnaires, of which 348 were validated questionnaires that have been analyzed. Because it was used snowball sampling method, we can not estimate the exact number of people who have seen and received an invitation to participate in the questionnaire, and therefore we can not calculate the rate of return responses.

The filtration of responses was realised using the method of eliminating multiple responses from the same respondent. For this, on the website where it was placed questionnaire it was implemented a registration system for IPs of computers or devices that accessed the site. All answers that were found as coming from the same IP were removed, keeping only the first corresponding record.

For the present study were synthesized only data on the effects of interactivity on consumer attitudes, the variables were grouped for analysis as two dimensions. The first dimension represents the interactive possibilities offered through the video game construction, design, characters, interactive objects in the game such as weapons and clothing for avatars. The second dimension was related to the interactivity offered by the construction of the narrative story of the game, and players opportunities to influence the course of action in the game, something that otherwise is specific to all video games .

3.3 DATA ANALYSIS AND RESULTS

Data analysis follows three major stages in which data are processed using SPSS (v.20) and the working database was in standard Microsoft Office Excel (xls), following three-step analysis by statistical methods: analysis of two types demographic data - gender and group age group, descriptive analyse and factor analysis of the data and hypotheses.

To characterize the participants in this study used two demographic variables, namely gender and age group. As shown in Table no.2 sample distribution by age and gender, were identified 48% of people participating in the study are females and 52% are male. Close proportions of these two categories of consumers provides a good representation of gender in the sample.

Table no.2: Demographic variables gender and age group

| Gender | | Age group | | |
|----------|-----------|-------------|-------------|-------------|
| feminine | masculine | 15-25 years | 26-35 years | 36-45 years |
| 48% | 52% | 10.3% | 60.4% | 29.3% |

Source: Developed by author according to the analysis of frequencies in SPSS (v.20)

The larger number of respondents, fall into the category of 26-35 years, representing a rate of 60.3%, followed by 36-45 category, representing 29.3%, and those ranging from 15-25 years representing 10.3%.

For descriptive analysis of data interactivity and its effect over consumer attitudes we analyzed the mean, standard deviation, coefficient of variation of standard deviation, absolute frequencies, relative and skewness and kurtosis values cumulated (Table 3).

Table no.3: Descriptive values

| Dimensions | Mean | Variation Coefficient (CV) | Skewness | Kurtosis | Cumulative value - Agree (%) | Cumulative value - Desagree (%) |
|--|------|----------------------------|----------|----------|------------------------------|---------------------------------|
| Interactivity-design (characters, objects) | 5.61 | 21.01 | -.500 | -.681 | 80.7 | 5.2 |
| Interactivity - narrative construction | 3.91 | 50.79 | -.038 | -1.484 | 43.6 | 42.9 |
| Global Interactivity | 4.76 | 28.78 | .066 | -1.525 | | |

Source: Developed by author according to the analysis of frequencies in SPSS (v.20)

The coefficient of variation of the mean value shows that values are grouped around the mean value (28.78%). In this case, the mean is representative and may be interpreted, showing that consumers generally have a favorable attitude towards the overall interactivity of a video game containing advertising elements (score 4.76). Also the results show that players have a positive attitude towards interactivity given by the design and objects that can be manipulated in the game (80.7%), while the interactivity given by the narrative construction does not have this effect (43.6%).

Skewness and kurtosis values indicate that at the level of the interactivity the data distribution is normal and most of the responses are being placed to the right of the center point of neutrality, indicating that consumers generally have a positive attitude towards the interactive features of an online game.

The factor analysis of data used the „main component” procedure in order to identify the complete variable, which may be removed from the analysis to reduce the information to be analyzed, factors being rotated with the Varimax method.

An important consideration before the actual factor analysis is to test the adequacy of the data, which measures the consistency of the results found and the extent to which a particular data set provides consistent results if it is replicated. To test the internal consistency of global interactivity factor, we measured using Cronbach α reliability, and appropriateness of the data by the Kaiser-Meyer-Olkin coefficient (KMO) and Bartlett's test of sphericity. These results are shown in Table 4.

Table no.4: The internal consistency of interactivity component

| Cronbach α Coefficient | KMO Coefficient | Bartlett's test of sphericity | | | Correlation | |
|-------------------------------|-----------------|-------------------------------|----|---------|--------------------------------|----------------------------------|
| | | Approx Chi-Square | df | Sig (p) | Pearson | Spearman |
| 0.581 | 0.500 | 84.572 | 1 | 0.000 | $r(H1) = 0.515$ $p = 0.000$ | $r_s(H1) = 0.471$ $p = 0.000$ |

Source: Developed by author according to the analysis of frequencies in SPSS (v.20)

The value of Cronbach α coefficient (0.581) shows a good internal consistency, and the KMO coefficient has a value equal to the accepted limit of 0.500. The Bartlett's test of sphericity is significant $p = 0.00$, ($p < 0.05$) showing the existence of a connection between the analysed variables. All these values allow a further factor analysis.

The existence of a connection between interactivity and the consumers' attitude towards video games with advertising content is given by the correlation coefficients Pearson's (r) and Spearman (r_s); the values of these coefficients show that between the analysed variables is a good correlation ($p = 0.00$), with a medium intensity ($r(H1) > 0.4$; $r_s(H1) > 0.4$).

For hypothesis testing we start from the following set of assumptions:

- It is considered that the population is evenly distributed, and it has a normal distribution;
- Representativeness coefficient is 95% ($p = 0.05$).
- Statistical assumptions are defined as:
 - Null hypothesis H_0 : The two variables are not significantly related.
 - An alternative hypothesis H_1 : The two variables are significantly related.

Table no.5 presents the statistical tests used to validate the research hypothesis and results.

Table no.5: The validation of research hypothesis

| Research hypothesis | Statistical test | Results | Conclusions on hypothesis |
|---------------------|----------------------------|--------------------------------------|---------------------------|
| H1 | Multiple linear regression | Adjusted $R^2 = 0.263$, $p = 0.000$ | It confirms |
| H2 | Testul -T | $t = -2.337$, $p = 0.020$ | It confirms |
| H3 | ANOVA | $F = 18.370$, $p = 0.000$ | It confirms |

Source: Developed by author according to research methodology

H1 hypothesis aims to test the correlation between the analyzed variables and implies their analysis by linear regression method. At a significance level of $p = 0.000$, hypothesis H1 is confirmed, indicating that the interactivity of an online video game that has advertising content influence consumer attitudes towards that advertising.

Hypothesis H2 seeks to identify the extent to which different interactivity influence consumer attitudes toward advertising in online games based on their gender. Verification is

performed using the T-Test, which at a significance level of $p = 0.020$ shows that hypothesis H2 is confirmed. Thus, men and women in Romania have significantly different perceptions of the interactive features of games that have advertising content.

Hypothesis H3 is tested using ANOVA and shows that perception of consumers from Romania regarding interactive aspects of online video games with advertising content is significantly influenced by age group to which they belong ($p = 0.000$).

4. CONCLUSIONS

The results obtained in this study show that aspects of interactivity in an online video game, related both to the construction, design, characters and objects placed in the game, and the game narrative story have influence on attitudes and perceptions towards advertising placed in that game of consumers from Romania. Advertisers can use interactive elements and present their brands in a game through dynamic inserts to positively influence the attitude of players.

Further research may address a comparative analysis of static and dynamic insertions on consumers from Romania and could highlight either if their attitude changes, improves or the contrary, it becomes negative.

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