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Use of Mobile Advergame as Brand Communication Tool

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Abstract: The new and creative marketing strategies came into existence to attract consumers towards the brand by marketing agencies. One of these innovative marketing tools is mobile advergame which is observed as an attractive marketing tactic to enhance product awareness. The present study aims to identify the use of mobile advergame as a brand communication tool in Malaysia. A total of 366 Malaysian gamers were taken into consideration as respondents of this study. A structured online based questionnaire was designed for the study and self-brand congruity measurement was adopted to measure an association between consumer's self-image and characteristics of brand's value among gamers. The participants were asked about their experiences related to the advertisements occurred during the game. The findings revealed a positive relationship between self-brand congruity's brand recall, brand attitude and purchase intention, entertainment brand recall, and brand attitude. As the main purpose of mobile advergame is to enhance the brand awareness; therefore, a consistency between the product and game content should be identified by the advertising company.

Keywords: advertising, brand, communication strategy, marketing, mobile advergame

1. Introduction

With the arrival of internet and mobile communication, the essence of communication is enhanced significantly over the last few years (Goodman-Deane et al, 2016). The enhanced nature of communication offers multiple facilities alternatives to humans in various sectors which were not approachable. It provides outstanding benefits to the human life in many ways as digitalization has moved the marketing industry to the next level (Gura, 2016). With the innovative technologies, a shift has been observed from consumer's awareness to consumer's involvement in which advergames play a noticeable part (Wanick Vieira, 2017).

The term advergames was coined by Anthony Giallourakis in 2000 and had mentioned in the Wired magazine in 2001 (Chakraborty & Saha, 2019). Similarly, Aggarwal (2015) explained the attitudes of advergames and the brand to measure efficacy of advergaming design, which reveals that well-executed advergames have a great influence on consumer behaviour of all ages. Conventional approaches in the world of marketing is shifting to the unconventional approaches to enhance brand knowledge (Jayswal & Vora, 2017). Advergame has become a significant tool to communicate brands and products in an efficient way (Chakraborty & Saha, 2019).

Playing games is always a source of creating fun and entertainment for the people of all ages. Therefore, digital games have now considered to be a source of money-making platform in the world of gaming and advertising (Jayswal & Vora, 2017). Advergames have proved to be a potential tool to enhance brand loyalty and obtain information concerning the customers. Interactive games with the advertising are being created (Çeltek, 2017). Global market of games has reached to $99.6 billion where the amount is generated by 37% mobile phone companies (Mastrocola, 2010). The combination of games and advertisements has boosted branding and product knowledge to gather the information of the concerned consumers (Çeltek, 2017).

Lee and Cho (2017) explicitly indicated that accredited personality traits to the advergames are observed from two dimensions of brand personality. According to Interactive Software Federation of Europe (2012), one fourth gamers use

mobiles to play games and 83% of gamers play online games using free applications or download sometimes. However, the response of consumers towards general advertising and phone advertising is unclear. It is hard to identify the attitudes and purchasing intentions of the consumer (Hashim & Zolkepli, 2014). On the other hand, customer satisfaction and brand attitude have a positive and significant attitude in Malaysia regarding gaming and advertisements on mobile phones (Yang, Asaad & Dwivedi, 2017).

The increasing level of interest in advergames identified that the marketers accept significant benefits of advergames as a secretive marketing strategy. The significance of this study highlights that most of the mobile advergames promote interesting, adventurous and exciting features. However, these characteristics emphasize towards the help provided in mobile advergames and its competitors. Developing mobile advergames with these characteristics can enhance the knowledge of advergame; however, the desired outcomes by mobile advergames cannot be ensured. In addition, perceptions of consumer's personality of advergames, which is also termed as advergame personality (AP) can serve as a tool to build a different identity to point out advertising. Moreover, applying the understanding based on the user's perceptions about the mobile advergames can improve the efficacy of advergames too. Therefore, the study aims to identify the use of Mobile Advergame as Brand Communication Tool in Malaysia.

2. Literature Review

The growing interest of advertising agencies towards the advergames is increasing by the capability to involve teenagers and young adults (Peters & Leshner, 2013). Combining ads and games is remarkable strategy to boost branding, boost product awareness and collect detailed information concerning participants (Çeltek, 2017). Abdul Adis et al (2015) studied the brand attitude of the gamers on the advergames in terms of entertainment and self-brand congruity. Moreover, initiation of the relationship between entertainment and self-congruity by the role of brand attitude on the purchase intention is also evaluated in this study. The structural equation modelling (SEM) was used to carry out this study. However, the study revealed that the role of brand attitude has an impact on the self-congruity and entertainment on the purchase intention in the advergame.

Hashim (2014) proposed the conceptual framework for this study, which was derived by using the models created by Ducoffe (1996) and Mackenzie (1989) regarding the consumer's attitude towards Internet advertising. Based on the given models, informativeness, trust, antecedents of entertainment and irritation are being evaluated to identify the behavioural response on the consumer towards the acceptance of internet advertising and how that behavioural response influence the consumer's purchase intention. By having an explicit understanding of the effectiveness of the messages about mobile advertising on the purchase intention of the consumer, the marketing bodies can have better strategies for their mobile advertising, which will provide a clear evidence concerned with the objectified mobile content that will go with the mobile advertising medium.

Shan (2016) discussed the mobile advertising in terms of advancement, advantages and formats. Thus, the study revealed that, the evolution in the mobile advertising is known to be rapid, will become more user-friendly and will let interactivity to be happen. Moreover, the interactivity, customized characteristics and low cost lead the mobile advertising to the more favourable level than any other media. With the emergence of mobile advertising, the marketers will be able to do customization in their advertisement instead of time limitation and geographical to the consumers.

The cross-cultural behaviour of consumer and the effectiveness of the advergames were evaluated by the proposed framework in Wanick Vieira (2017). However, the framework was analysed and proved by the comparison between UK and Brazil in terms of design elements of advergames and the perceptions of consumers. With the emergence of this new advertising, the adverse effect of advergames in terms of children's health and eating habits has been examined. Folkvord (2018) evaluated the effects of the advergames on children regarding their bad eating habits. Five electronic databases (Web of Science, PsychInfo, Pubmed, JSTOR, and SCOPUS) were utilized for the relatable publication. The study resulted that these advergames have an adverse effect on the children's health. Additionally, public health policy action was supported by this meta-analysis that will reduce the exposure of unhealthy food among the children through this digital marketing.

With the context of mobile Advergame as brand communication tool, the current study identified some gaps that need to be fulfilled to have empirical evidence in the same context. However, the hurdles faced in mobile advertising and the adoption of the formats used in the mobile advertising in Malaysia will lead to have growth in the future (Shan 2016). Moreover, how the study will affect the perceptions and ides of the advertisers to influence people and their perceptions in Malaysia needs to be identified (Wanick Vieira, 2017). On the other hand, the advergames are not being used by the advertisers in Spain due to which the complexities emerged in creating the video games cannot be understood by the digital agencies. Hence, this lack of knowledge lead to the negative outcomes in creating advergames. This also serves as one of the major hurdles in the growth of this sector.

The relationship between self-brand congruity, brand recall, brand attitude and purchase intention

Self-brand congruity can be conceptualized as *the match between a brand's value-expressive attributes (e.g., product/ user images) and the consumer or user's image of self* (Sirgy, 1985). There were remarkable findings in discussing the relationship between self-congruity and purchase intention. For example, Sirgy (1985) found that ideal congruity and self-congruity significantly influence purchase motivation. A recent study by Taylor et al. (2011) on

Social Network Service advertisement showed that internal self-congruity was found as an important factor in facilitating greater attitudinal acceptance of advertisements designed to appear in the SNS context. They assumed that consumers frequently compare imagery that has been associated with a brand with images they hold about themselves. The greater the congruity, the more positive the consumer's attitude is toward the brand (Escalas & Bettman, 2005). In event sponsorship, that self-congruity with a sponsorship event has a positive influence on brand loyalty when customers are aware of the firm sponsoring the event and when it gets involved with the event (Sirgy et al., 2008). These findings showed the importance of self-congruity in determining brand attitude.

In this study, it would argue that self-brand congruity will influence the brand recall and brand attitude in advergames. When gamers see the brand appears in game has value-expressive attributes which match and congruent with their self-image, indirectly it will enhance gamer's brand recall and simultaneously enhance their attitude towards brand. Finally, the attitude towards purchase intention is also increase. Thus, in this study, it is hypothesized that:

H1a: Self-brand congruity positively influences brand recall in advergames.
H1b: Self-brand congruity positively influences brand attitude in advergames.
H1c: Self-brand congruity positively influences consumer purchase intention in advergames.

The relationship between entertainment, brand recall, brand attitude and purchase intention

In the current research, entertainment can be defined as an entertainment value included in the game in order to influence user's attention to stay longer and spend more time in playing game. This can be referred as fun and enjoy environment created in the game in order to enhance the game entertainment attributes. In purchase behavior, consumers not only purchase toys, but are also entertained while in the store. This will make consumers' purchasing experiences extend to complementary entertainment, which may keep them in the store longer and stimulate sales (Kim et al., 2007).

A study of SNS users' perceptions of SNS advertisements as being entertaining and positive would influence their attitudes toward advertising (Taylor et al., 2011). Perceived entertainment has been identified as a determinant influencing consumers' attitudes toward advertising in electronic commerce (Gao & Koufaris, 2006). This was supported with recent study by Martí-Parreño et al. (2013) who noted that entertainment is the main driver of brand attitude in advergames. Thus, it is hypothesized that:

H2a: Entertainment positively influences brand recall in advergames.
H2b: Entertainment positively influences brand attitude in advergames.
H2c: Entertainment positively influences consumer purchase in advergames.

The relationship between brand placement, brand recall, brand attitude and purchase intention

People might experience different things and form different perceptions and attitudes. For example, in a research did for college students, as compared to their woman counterparts, men were found to be significantly more likely to play video games two or more hours a week and to indicate that video games playing interfered with sleeping and class preparation (Ogletree & Drake, 2007). In terms of brand placement and brand memory, Yang et al. (2006), in comparing college students' explicit and implicit memory for brand names, found that college students had low levels of explicit memory (recognition test) for brands, but showed implicit memory (word-fragment test) for the brand names placed in video games. This result leads to consumer intention to purchase the product after brand exposure.

This different from a study by Lee and Faber (2007) which explored the conditions under which product placement in an online game will get noticed and be remembered from a perspective of the limited-capacity model of attention. They suggested that the location of brand messages in the game (proximity), game involvement, and prior game-playing experience interact to influence brand memory (Lee & Faber, 2007). In addition, the recognition superiority of the focal brands over the peripheral brands disappears when experienced players' involvement is high and the degree of congruity between the brand's product category and game content influences brand memory (Lee & Faber, 2007).

In advergames, the effect of brand placement towards in-game advertising was found to be inconsistent. Some supported brand placement in games could destroy the fantasy world of games (Nelson, 2002; Nelson et al., 2004) and those who are negative about product placement are also negative about other types of advertisement (Nelson et al., 2004). Contrasting views were discussed by Molesworth (2005) in which most of the respondents were positive about brand placement, partly because it added realism and helped to finance the game developers. This was supported by Ho (2006) who argued that respondents' attitude towards product placement in video games is more positive compared to placement in movies due to the fact video games are generally not as realistic as movies, and therefore the quality of the video games is therefore dependent on its level of realism. In addition, brand recall was reported to amount to 30% (Nelson, 2002), and through the arousal and valence experienced by the gamer, brand attitudes were found to be positively influenced (Grigorovici & Constantin, 2004). The strength of placing a brand in an advergame does influence the advertising effects in terms of brand recall and brand attitude (Cauberghe & Pelsmacker, 2010). Thus, it is hypothesized that:

H3a: Brand placement positively influences brand recall in advergames.
H3b: Brand placement positively influences brand attitude in advergames.
H3c: Brand placement positively influences consumer purchase intention in advergames.

The relationship between character presence, brand recall, brand attitude and purchase intention

The use of character or spokes-characters in influencing consumer behavior towards purchase intention has been specifically emphasized on certain particular consumer age group. For example, an experimental study by Lapierre et al. (2011) to investigate whether licensed media spokes-character on food packaging and nutrition cues affect young children's taste assessment of product showed that the use of popular characters on food products affects childen's subjective assessment of taste. Advertisements containing an animated spokes-charactersgenerate high levels of attention, character recognition and liking, and product recognition and liking (MacKenzi and Lutz, 1989). In online video games, there is a significant interaction effect between character presence and product type on both brand attitude and purchase intention (Choi and Lee, 2012).

The attractiveness of the characters in game can be measured by using an audiovisual in the game. The use of audiovisual message presentations can be highly pay attention and build recognition among young consumer (Neely & Schumann, 2004). On the other hand, past study investigated on the impact of spokes-character features on brand attitude (Garretson & Niedrich, 2004) but the impact of the character presence on brand related cognition has not yet investigated. In this study, it is expected that character presence influence to increase brand recall of the gamers and ultimately would improve the attitude towards brand. Therefore, it is hypothesized that:

H4a: Character presence positively influences brand recall in advergames.
H4b: Character presence positively influences brand attitude in advergames.
H4b: Character presence positively influences consumer purchase intention in advergames.

The effect of brand recall on brand attitude and purchase intention and its role as mediator

The impact of brand recall towards consumer attitude can be different according to the factors involved in the relationship. It was confirmed that highly congruent games lead to superior memory for the sponsoring brand in advergames (Gross, 2010). Lee and Faber (2007) in their study on on-line games found that the degree of congruity between the product category of the brand and game content influences brand memory in which highly incongruent brands are better recalled than either moderately incongruent brands or highly congruent brands. Besides that, when physiological arousal increased, cognitive performance (i.e. memory scores) also increased (Jeong & Biocca, 2012). Chi et al. (2009) suggests that brand recall and brand awareness were positively related to purchase intention. This indicates that brand is an important factor that determines the consumer's purchase decision in the consumer buying behavior process. This was supported by Mackay et al. (2009) which suggested that brand attitude can be increased and brand recall can be improved for consumer who had preexisting attitudes towards the brand. In this study, brand recall also was suggested as a mediating factor to influence the relationship between self-brand congruity, entertainment, brand placement acceptance and character presence on purchase intention. With the increasing of brand recall of certain brands appeared in games, it is also expected to influence positively user's self-brand congruity, entertainment factors, brand placement acceptance and character presence on purchase intention. Thus, it is hypothesized that:

H5:   Brand recall positively influences purchase intention in advergames.
H7:   Brand recall positively influences brand attitude in advergames.
H8:   Brand recall mediates the relationship between (a) self-brand congruity, (b) entertainment, (c) brand placement acceptance, (d) character presence and purchase intention in advergames.

The effect of brand attitude on purchase intention and its role as mediator

While researchers found a weak relation between attitudes towards advertising and purchase behavior (Nelson et al., 2004), favorable attitudes towards advertising had a positive effect on the individuals' consumption behavior (Ing & Azizi, 2009). Researchers also claimed that attitudes towards advertising in general influenced attitudes towards advertising in games. In advergames, the change in brand attitude attributable to game enjoyment is stronger for product-relevant advergames than for product-irrelevant ones (Wise et al., 2008).

Studies have suggested that brand attitude has a positive impact on the purchasing intention of customers (Shah et al., 2012). Furthermore, brand attitude is seen as reflecting an interaction between a potential consumer's involvement with the purchase decision and the underlying motivation to purchase (Percy & Rossiter, 1992). This supports this study prediction that brand attitude may affect consumer behavior during game playing.

A recent study on the impact of event marketing on brand equity by Zarantonello and Schmitt (2012) found that brand attitudes mediate the relationship between events and brand equity only for certain types of events. Since those studies have not given emphasis to advergames, the current study attempts to fill this gap. Thus, it is hypothesized that:

H6:   Brand attitude positively influences purchase intention in advergames.
H9:   Brand attitude mediates the relationship between (a) self-brand congruity, (b) entertainment, (c) brand placement, (d) character presence and purchase intention in advergames.

3. Research Methods

The study was conducted through the online survey from gamers in Malaysia. The participants were asked whether they play video games and SNS games on mobile phones. A total number of 366 participants were contacted through email and Facebook and asked them to participate in the study. For this study, a structured online based questionnaire was designed. The participants were asked about their experiences related to the advertisements appear during the game. However, to check the participants' memory, they were asked to recall the efficacy of the brands appeared while they were playing the games. This approach seems to be natural to identify the brand notice by respondents and advertising effectiveness rather than artificial testing and experimental controls.

Self- brand congruity measurement was adopted to measure the link between consumer's self-image and characteristics related to brand's value among the gamers. Another measurement was adapted to identify the attractiveness, entertainment, enjoy ability and exciting to mobile advergames. It also measures the level of consumer's knowledge and about the brand and its existence in games and their concepts that appear in the games. The brand awareness measurement was adopted from Morton and Friedman (2002), which was used to measure the gamer's preferences about the product and recalling the brand. Brand attitude items were adopted from Batra and Stayman (1990), which was used to measure the attitude of consumer towards the brands appearing during the games. Ultimately, an approach towards purchase intention was adopted from Morton and Friedman (2002), which was used to measure consumer's intentions to purchase the product appeared during the games. All these measurements were measured using the 5-point Likert scale. The questionnaire was designed in two languages English and Bahasa as the study was conducted in Malaysia. Pearson correlation and structural equation modelling has been used in the study to analyse the data collected through Statistical Package for Social Sciences (SPSS).

4. Results and Discussion

An online survey was conducted with a total number of 366 participants. Table 1 has the demographic details of these participants who spent time by playing games, preferred game, the mode preferred for the game and the type of game played.

Table 1 - Demographic details

	Profile	N=366
Gender	Male	177
	Female	189
Age	19-20 years	47
	21-25 years	171
	26-30 years	95
	>30 years	53
Time spend	<1 hour	16
(hours in a week)	1-8 hours	271
	>8 hours	79
Game mode	Single player	265
	Multiple player	101
Preferred game	Free game	349
	Paid game	17
Type of game	**Video game**	**121**
	Mobile game	**134**
	SNS game (Facebook, twitter)	**111**

To measure the reliability of the study's questionnaire, Cronbach's alpha was used for the analysis. The Cronbach's alpha value for the self-brand congruity was (0.855), brand placement was (0.623) i.e. positive and (0.830) i.e. negative, brand attitude was (0.873), entertainment was (0.936), presence of the character was (0.890), re-calling of brand was (0.864) and purchase intention was (0.945) (Table 2). Due to the Cronbach's alpha analysis the constructs are considered to have the credibility. The Cronbach alpha is found to be higher than 0.7 in this study.

Table 2 - Reliability analysis of variables

Variables	No. of items	Cronbach's alpha value	No. of items after factor analysis	Cronbach's alpha value
Self-brand congruity	4	0.855	4	0.855
Entertainment	6	0.948	6	0.948
Brand Placement	10	0.673	2 (positive)	0.623
			3 (negative)	0.830
Character presence	3	0.890	3	0.890

Brand recall	6	0.864	6	0.864
Brand attitude	4	0.873	4	0.873
Purchase intention	6	0.835	5	0.945

The correlation analysis between the independent variables of self-congruity, character presence, entertainment, brand placement and the mediating variables of brand attitude and brand recall and the dependent variable of purchase intention was shown in Table 3. From the findings, all the variables were associated with the purchase intention with a significant level of 0.10.

Table 3 - Correlation analysis

	M	SD	1	2	3	4	5	6	7
	2.88 25.	0.767 40	1						

Factor/Items	Standardized Factor Loading	Average Variance Extracted	Composite Reliability
Self-brand congruity	.865	0.776	0.873
SBC3: The brands advertised through games reflect who I am.	.873		
SBC4: The typical customers of brands advertised through games are very much like me			
Entertainment	.811	0.660	0.793
ENT5: The brand you saw in game is pleasing.	.746		
ENT6: The brand you saw in game is exciting			
Brand placement	-.804	0.777	0.875
BPA9: Brand placement in games is an unethical form of advertising	-.842		
BPA10: I feel the brand placement strategy should be restricted			
Character presence	.769	0.729	0.890
CP1: The characters appear in games attracted me to play	.802		
CP2: Most of characters in games are very	.808		

attractive
CP3: The present of the characters in game make my gameplay more enjoyable

Brand recall

RE2: I can remember where the product scene located in the games	.689	0.701	0.
RE4: I can remember the product/brand placement(s) a few weeks after I have seen the placements	.829		

Brand attitude

ATT2: The brand you saw in the game is lovable/not lovable.	.808	0.654	0.
ATT3: The brand you saw in the game is desired/not desired.	.732		

Purchase intention

PI3: I started using brands after seeing them in games.	.856	0.866	0.
PI5: I buy brand when I see characters have been using in games.	.845		

Self-brand congruity

|									
Entertainment	3.7117	0.84994	.283**	1					
Brand placement	3.3724	0.67128	.320**	0.620**	1				
Character presence	4.0883	0.62891	.203**	.551**	.359**	1			
Brand recall	3.2272	0.76035	.244**	.484**	.626**	.196**	1		
Brand attitude	3.1233	0.81357	.257**	.469**	.483**	.240**	.471**	1	
Purchase intention	2.9517	0.68787	.317**	.433**	.516**	.206**	.575**	.557**	1

Measurement Model Testing

Confirmatory factor analysis (CFA) was conducted to examine the validity of the measurement model. The overall fit of the CFA as well as structural models were examined using common parameters, namely, chi-square statistics, goodness-of-fit index (GFI), comparative fit index (CFI), and root mean square error of approximation (RMSEA; Hair et al., 2006). Modification indices suggested that 17 items were deleted due to relatively low standardized regression weights compared with other items and high error variance. The items deleted were SBC1 and SBC2 Self-brand congruity), ENT1, ENT2, ENT3 and ENT4 (Entertainment), RE3, RE6 (Brand recall), and PI2, PI2 and PI6 (Purchase intention). Thus, it is acceptable to rationalize that deletion of these items are necessary to improve the goodness-of-fit of the model. According to the goodness-of-fit indices (x^2 = 198.013, df= 69, RMSEA = .072, P value= .000, GFI = .886, NFI = .938, CFI = .958) from CFA, which the measurement model provided evidence of satisfactory fit. Hence, the fit measure of the model suggested a reasonable fit. Simultaneously, the validity test that covers convergent and discriminant validity was examined. Convergent validity was assessed by examining construct loadings and construct reliability (Peter, 1981). It was indicated that all construct loadings were significant ($p<.001$) and above the recommended value (.07) and average variance extracted (AVE) were exceeded the recommended cutoff point of .5 (Bagozzi & Yi, 1998).

Table 4 - Summary of factor loading, average variance extracted (AVE), and composite reliability

| Factor/Items	Standardized Factor Loading	Average Variance Extracted	Composite Reliability
Self-brand congruity			
SBC3: The brands advertised through games reflect who I am.	.865	0.776	0.873
SBC4: The typical customers of brands advertised through games are very much like me	.873		
Entertainment			
ENT5: The brand you saw in game is pleasing.	.811	0.660	0.793
ENT6: The brand you saw in game is exciting	.746		
Brand placement			
BPA9: Brand placement in games is an unethical form of advertising	-.804	0.777	0.875
BPA10: I feel the brand placement strategy should be restricted	-.842		
Character presence			
CP1: The characters appear in games attracted me to play	.769	0.729	0.890
CP2: Most of characters in games are very attractive	.802		
CP3: The present of the characters in game make my gameplay more enjoyable	.808		
Brand recall			
RE2: I can remember where the product scene located in the games	.689	0.701	0.824
RE4: I can remember the product/brand placement(s) a few weeks after I have seen the placements	.829		
Brand attitude			
ATT2: The brand you saw in the game is lovable/not lovable.	.808	0.654	0.791
ATT3: The brand you saw in the game is desired/not desired.	.732		
Purchase intention			
PI3: I started using brands after seeing them in games.	.856	0.866	0.928
PI5: I buy brand when I see characters have been using in games.	.845		

To assess the hypothesized relationship and model proposed in the study, researcher used the structural equation modeling technique (SEM). With the complete sample of (N=366), it was tested and specified on the basis of the proposed hypothesis. It was tested with the entire sample (N=366). It was specified based on the hypotheses proposed. The results of SEM analysis for whole model are depicted in Figure 1. The result of the overall model demonstrates a satisfactory model with adequate goodness-of-fit (x^2 = 198.013, *df*= 69, RMSEA = .072, P value= .000, GFI = .886, NFI = .938, CFI = .958). Accordingly, the result suggests that the hypothesized model fits the empirical data well.
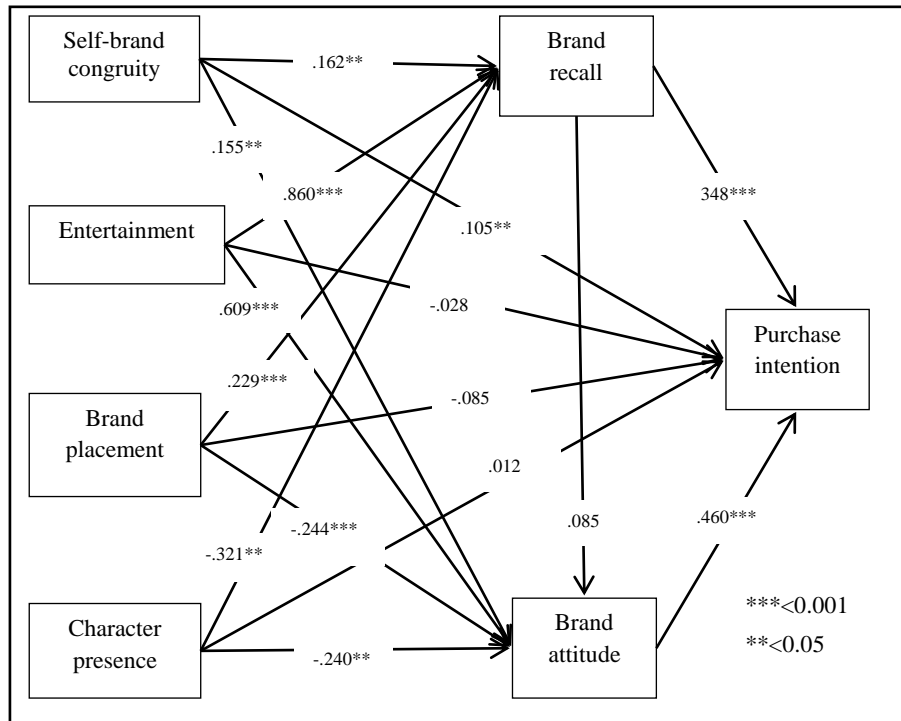
Fig. 1 - Structural model

According to the figure 1, the positive relationship is being observed between the self-brand congruity's brand recall (H1a), brand attitude (H1b) and purchase intention (H1c), entertainment brand recall (H2a) and brand attitude (H2b), however, for brand placement, brand recall (H3a), for brand recall, purchase intention (H5), and for brand attitude, purchase intention (H6). Whereas, a negative relationship between brand placement's brand attitude (H3b), presence of the character's brand recall (H4a) and brand attitude (H4c). However, according to the results zero significance is found in the relationship between entertainments, purchase intention (H2c), presence of character's purchase intention (H4c), brand placement's purchase intention (H3c) brand attitude (H7) of brand's recall. Thus, the study provided a support to the positive relationship of H1a, H1b, H1c, H2a, H2b, H3a, H5 and H6. These hypotheses are supported as a result. Additionally, a negative relationship is also being indicted through the findings, i.e. for H3b, H4a and H4b. However, the result supported H3b and rejected H4a and H4b. Furthermore, the findings revealed zero significant relationship between H2c, H3c, H4c and H7 as these are rejected.

For the mediating effects of brand recall and brand attitude on the self-brand congruity, entertainment, brand placement and character presence on purchase intention, a series of steps of bootstrap analysis in SEM was used. Firstly, the direct effects of self-brand congruity, entertainment, brand placement and character presence on purchase intention was tested to make sure there are relationships between independent variables and dependent variable (see Figure 2). The result of the model demonstrates a satisfactory model with adequate goodness-of-fit (x^2 = 88.048, *df*= 34, RMSEA = .064, P value= 0.000, GFI = .925, NFI = .964, CFI = .978). The results show that there were direct effects between self-brand congruity and entertainment on purchase intention at significant level of .001 but there were no significant direct effects for brand placement and character presence on purchase intention. This findings support H1a and H2a, however, H3a and H4a were not supported.
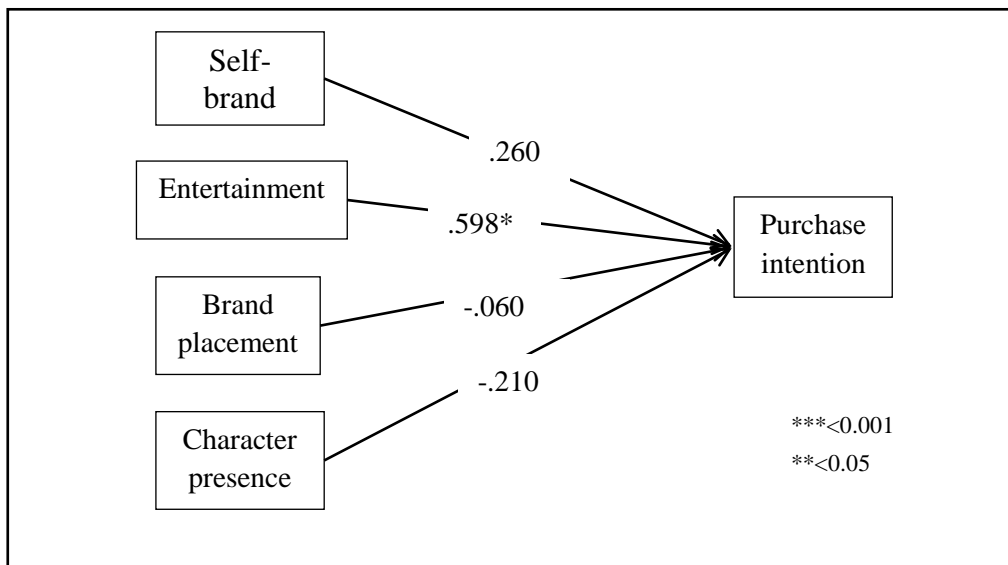
Fig. 2 - Bootstrap structural equation model of the direct effects of self-brand congruity, entertainment, brand placement and character presence on purchase intention

After that, the bootstrap analysis was employed to test the direct and indirect effects of self-brand congruity, entertainment, brand placement and character presence on purchase intention through brand recall was tested (see Table 5, Table 6 and Figure 3). In this model, it was suggested that there were direct effects between self-brand congruity, entertainment, brand placement and character presence on brand recall which support for H1b, H2b, H3b and H3b. Besides that, it also found that there were significant effects between self-brand congruity, brand placement and brand recall on purchase intention positively. These findings provide support for H1c, H3c and H5 but reject H2c and H4c which no significant effects between self-brand congruity, entertainment and character presence on purchase intention. With the inclusion of brand recall, it was found that there were mediation effects of brand recall on the relationships between self-brand congruity, entertainment, brand placement and character presence on purchase intention (see Table 6). Therefore, these findings provide support for H8a, H8b, H8c and H8d.

Table 5 - The empirical results of the bootstrap structural model of the indirect effects of self-brand congruity, entertainment, brand placement and character presence on purchase intention with the brand recall as a mediator
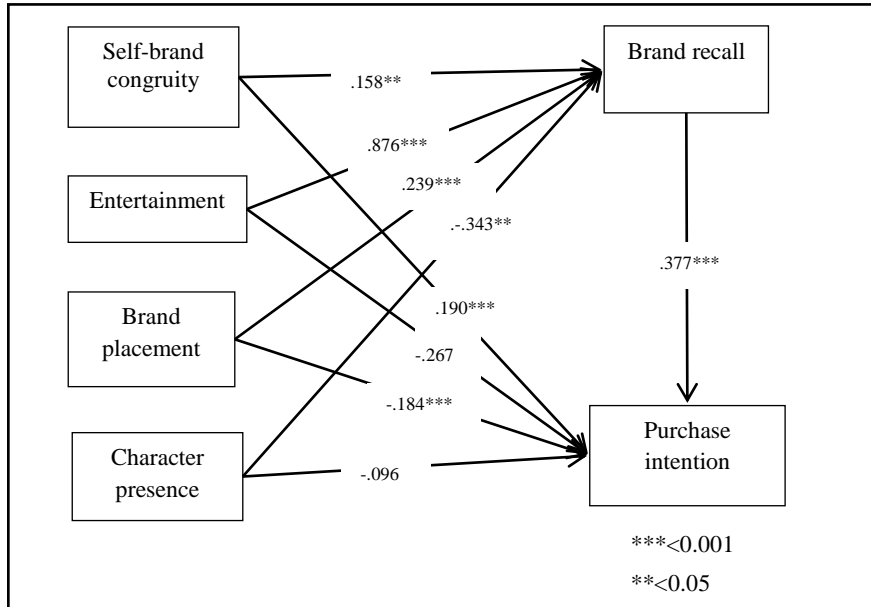
Model	Structural model
χ^2	139.576
df	50
χ^2/df	2.792
P value	.000
RMSEA	.070
GFI	.902
NFI	.949
CFI	.967

Table 6 - Results of bootstrap analysis of significance for brand recall mediation effect

		Brand recall	Purchase intention
Self-brand congruity	Direct effect	**.003****	**.002****
	Indirect effect	…	**.008****
Entertainment	Direct effect	**.001*****	.128
	Indirect effect	…	**.008****
Brand placement	Direct effect	**.001*****	**.027****
	Indirect effect	…	**.004****
Character presence	Direct effect	**.004****	.382
	Indirect effect	…	**.009****
Brand recall	Direct effect	NA	**.012****

***<0.001
**<0.05

Fig. 3 - Bootstrap structural equation model of the effects of self-brand congruity, entertainment, brand placement and character presence on purchase intention with the brand recall as mediator

In Table 7, 8 and Figure 4 demonstrate the results of the direct and indirect effects of self-brand congruity, entertainment, brand placement and character presence on purchase intention through brand attitude. The model shows the significant effects between self-brand congruity, entertainment, and brand placement on brand attitude while the relationship between character presence and brand attitude was not found significant. Thus, H1b, H2b, H3b were supported. In addition, only self-brand congruity was found to give significant effect on purchase intention compare with other independent variables which found no significant effects. Therefore, H1c was supported. However H2c, H3c and H4c were not supported. In measuring the indirect effects, the results show that there were mediation effects of brand attitude on the relationships between self-brand congruity, entertainment and brand placement on purchase intention. However, there was no mediation effect of brand attitude on the relationship between character presence on purchase intention. Thus, H9a, H9b and H9c were supported. However H9d was rejected.

Table 7 - The empirical results of the bootstrap structural model of the indirect effects of self-brand congruity, entertainment, brand placement and character presence on purchase intention with the brand attitude as mediator
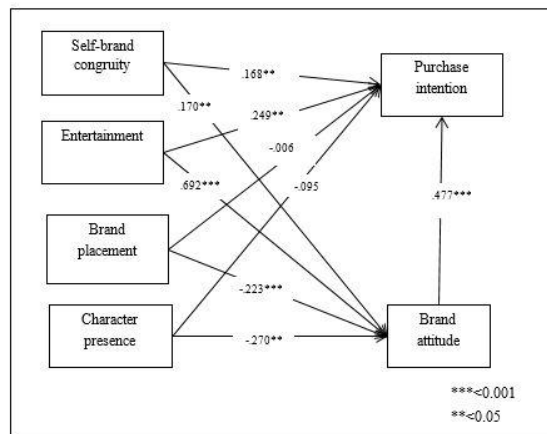
Model	Structural model
χ^2	127.635
df	50
χ^2/df	2.553
P value	.000
RMSEA	.065
GFI	.910
NFI	.953
CFI	.970

Table 8 - Results of bootstrap analysis of significance for brand attitude mediation effect

		Brand attitude	Purchase intention
Self-brand congruity	Direct effect	**.004****	**.002****
	Indirect effect	…	**.002*****
Entertainment	Direct effect	**.001*****	.079
	Indirect effect	…	**.001*****
Brand placement	Direct effect	**.004****	.912
	Indirect effect	…	**.002*****
Character presence	Direct effect	.066	.397
	Indirect effect	…	.055

Brand recall	Direct effect	NA	.001***

***<0.001

**<0.05

Fig. 4 - Bootstrap structural equation model of the effects of self-brand congruity, entertainment, brand placement and character presence on purchase intention with the brand attitude as mediator

In the present study, self-brand congruity, entertainment, brand placement, character presence and brand recall have a direct association with the purchase intention. In contrast, Martí-Parreño, Ruiz-Mafé and Scribner (2015) revealed the concerns of advergames among the consumers such as advertising clutter. Similar to the current study, Martí-Parreño, Ruiz-Mafé and Scribner (2015) also provided the factors that consequently allow consumer to accept advergames as a marketing tool due to customer's attitude towards advertising, consumer's attitude towards advergames, and past advergames experience. Similarly, Vashisht (2016) has highlighted the benefits of advergames as they are created to construct brand images and are used to deliver subtle association, experiences and familiarity. The advergames provide fun, escapism and experiences unlike the conventional advertising. In line with Auschaitrakul and Mukherjee (2017), advergames user witness some smart features of the advergames such as cost effectiveness, extensive marketing ability, and easily adjustable. This is observed through internet, through email to the potential customers, various application stores, social networks and mobile phones.

In contrast with the present study, the amount of evidence related to the influence of brand placement, entertainment and self-brand congruity as the antecedents of brand recall and brand attitude on the purchase intention is still insufficient. Therefore, entertainment, self-brand congruity and brand placement are required to add value to consumers' brand attitude and brand recall and purchase intention (Adis & Jun, 2013). The brands are introduced every time user opens a mobile advergame; thus, a game should be unique in nature so that customers can become more aware of the brand (Çeltek, 2010). This aspect revealed that mobile advergames not just increase the sales but also enhance customer relationship with the brand (Gura & Gura, 2016). The findings of the current study have shown that the mobile advergames are being classified in terms of brand involvement from the higher level to the lower level. The classification includes sponsorship of mobile game and mobile advergames. Therefore, the highest level of brand involvement is being witnessed by mobile advergame companies clearly (Gura & Gura, 2016). Moreover, the mobile games can be sold in very low prices due to the in-game purchase and advertising just to capture more and more gamers. This allows advertisers to attract more gamers as it reveals the same interest that players and mobile game advertisers share (Wen, 2016). Several mobile markets lack licensed titles due to which many of the ads are functional scams, which displays false images on the screen and serves ads before crashing (Boyd, 2017).

The mobile advergames possess several advantages for the advertising company as compared to the online advergames as mobile can be carried everywhere and it allow convenience for the users. With the emergence of General Packet Radio Service and 3G system mobile phones can be accessible at any location and provide different experiences (Chapman, 2017). However, the merger of advertising and mobile games has drawn many disadvantages still, the location based feature is most essential aspect for users. This feature allows the mobile advergames to tell the location related to the advertisement to the target audience. Moreover, the screen range of mobile is very limited; therefore, the display of advergames on the mobile screen cannot attract more customers (Wen, 2016). Çeltek (2017) presented the application and usefulness of mobile advergames in Tourism industry. The strengths and weaknesses include the involvement of user through the mobile advergames, which allows interaction, entertainment and congruence in the features. Advergaming is considered to be a good opportunity for the marketing companies. Moreover, it saves users from witnessing annoying advertising. It understands customer's preferences and enhances

brand loyalty and capture customer's data. However, it can be expensive to play as games need expensive technology devices.

Brand awareness, marketing strategies and advergaming were used to identify the effectiveness of mobile advergaming in the present study. However, the impact of mobile advergaming on youth and their well-being is not being highlighted. Moreover, the influence of advergame personality (AP) on consumer and the behavioral intention was also not examined in the study. Therefore, it would be essential to examine personality congruence among the brands and advergames to recognize their preference in the market. Lastly, the geographical differentiation in the application of mobile advergame can be taken into consideration.

5. Conclusion and Recommendation

The present study revealed a significant association between self-brand congruity, entertainment, brand placement, character presence and brand recall with purchase intention. As the main purpose of advergame is to enhance the brand awareness; therefore, a consistency between the product and game content should be identified by the company. Moreover, mobile advergames must be designed in an easy and convenient way to attract more and more audience as complications in it can lead to the failure of the project. The functionality and practicality of the mobile advergame should be highly observed by the advertisers. To adapt the changes of the digital world, mobile advergame companies should work explicitly for making the gaming language effective among the consumers.

The advertisements used in the internet marketing campaigns allow advertisers to carefully examine the efficacy of advertisements. This study recommends the advertising companies to test the samples of advergames before targeting their market of mobile advertising games so that they can satisfy their users. Secondly, the advergame banners are also required to be tested by the advertisers and marketing companies. Advertisers should generate successful results by generating high standard of perceived entertainment. The mobile advergames attempt to acquire the users' attention and reveal them to dynamic or static representations of brands, services, products to change their behavior and attitudes from a marketing point of view. The inducement of the state of flow is processed from the psychological foundation. This state of flow develops a state of learning capacity, increased perception, and a state of wellbeing. The user will experience frustration and will abandon the game with a negative feeling when the ability of the user is lower than the level of difficulty of the mobile advergame. The interest of the user will be aroused from the stimuli received throughout the interaction with the mobile advergame, both in the product/brand and games. It is possible to recognize the attributes of an effective advergame, considering the particular impact of the mobile advergame on the user. Lastly, following characteristics must be adapted when considering marketing communication tool; (1) the attributes of internet, (2) the strategic objectives of the communication campaign, (3) the profile of the targeted audience, and (4) the advertised brand's personality. The development and maintenance of the state of flow of mobile advergame are facilitated by adapting the mechanism of the game to enhance the ability of the users and their primary motivation, considering the user interaction with the mobile advergame.

Conflict of interest

The author declares no conflict of interest.

Acknowledgments

References

[1] Adis, A. A. A., Kim, H. J., Majid, M. R. A., Osman, Z., Razli, I. A., & Ing, G. P. (2015). Purchase behaviour in advergame and the effect of brand attitude as a mediator. Asian Social Science, 11(5), 249.

[2] Adis, A. A., & Jun, K. H. (2013). Antecedents of brand recall and brand attitude towards purchase intention in advergames. European Journal of Business and Management, 5(18), 58-67.

[3] Aggarwal, V. S. (2015). A Study of Effectiveness of Advergames on Children. Journal of Management Research, 7(2), 137-142.

[4] Auschaitrakul, S., & Mukherjee, A. (2017). Online display advertising: The influence of web site type on advertising effectiveness. Psychology & Marketing, 34(4), 463-480.

[5] Batra, R., & Stayman, D. M. (1990). The role of mood in advertising effectiveness. Journal of Consumer research, 17(2), 203-214.

[6] Boyd, C. (2017). VB2017 paper: Exploring the virtual worlds of advergaming. Retrieved by: https://www.virusbulletin.com/virusbulletin/2018/04/vb2017-paper-exploring-virtual-worlds-advergaming/

[7] Çeltek, E. (2010). Mobile advergames in tourism marketing. Journal of Vacation Marketing, 16(4), 267-281.

[8] Çeltek, E. (2017). Mobile Advertising: Mobile Advergame Models for Tourism Marketing. In Narrative Advertising Models and Conceptualization in the Digital Age (pp. 61-78). IGI Global.

[9] Cauberghe, V. & Pelsmacker, P.D. (2010), "The impact of brand prominence and game repetition on brand response," Journal of Advertising, 39, 1, 5-18.

[10] Chakraborty, T., & Saha, R. (2019). Food Advergames and Children: The Psychodynamics. In Application of Gaming in New Media Marketing (pp. 95-111). IGI Global.

[11] Chapman, S. (2017). The effects of customized food advergames on children's affective, cognitive, and conative responses.

[12] Chi, H.K., Yeh, H.R. & Yang, Y. T. (2009), "The impact of brand awareness on consumer purchase intention: The mediating effect of perceived quality and brand quality," The Journal of International Management Studies, 4, 1, 135-144.

[13] Choi Y. K, & Lee, J.G. (2012), "The persuasive effects of character presence and product type on responses to averages," Cyberpsychology, Behavior, and Social Networking, 15, 9, 503-506.

[14] Escalas, J. E. & Bettman, J. R. (2005), "Self-construal, reference groups, and brand meaning," Journal of Consumer Research, 32, 378-389.

[15] Folkvord, F., & van't Riet, J. (2018). The persuasive effect of advergames promoting unhealthy foods among children: A meta-analysis. Appetite.

[16] Gao, Y. & Koufaris, M. (2006), "Perceptual antecedents of user attitude in electronic commerce," The DATA BASE for Advances in Information Systems, 37, 2&3, 42-50.

[17] Garretson, J. A. & Niedrich, R. W. (2004), "Spokes-characters: creating character trust and positive brand attitudes," Journal of Advertising, 33, 2, 25-36.

[18] Goodman-Deane, J., Mieczakowski, A., Johnson, D., Goldhaber, T., & Clarkson, P. J. (2016). The impact of communication technologies on life and relationship satisfaction. Computers in Human Behavior, 57, 219-229.

[19] Gura, S., & Gura, K. (2016). The Use of Mobile Advergame as Brand Communication Tool: Case Study "Vodafon City". American Journal of Marketing Research, 2(2), 61-72.

[20] Grigorovici, D.M. & Constantin, C.D. (2004), "Experiencing interactive advertising beyond rich media: impact of ad type and presence on brand effectiveness in 3d gaming immersive virtual environment," Journal of Interactive Media, 5, 1, 31-53.

[21] Gross, M.L. (2010), "Advergames and the effects of game-product congruity," Computers in Human Behavior, 26, 1259-1265.

[22] Hashim, N. H., & Zolkepli, I. A. (2014, August). The effect of mobile advertising message content on consumer purchase intention. In Proceedings of 7th Asia-Pacific Business Research Conference (pp. 25-26).

[23] Ho, R. (2006), "Videogames that sell," Creativity, 14, 4, 21.

[24] Jayswal, M. & Vora, P. (2017). Exploring the Impact of Brand Engagement on Brand Equity in the Context of Advergame.

[25] Kim, Y.-K., Sullivan, P. & Forney, J. C. (2007), Experiential retailing: Concepts and strategies that Sell, Fairchild Publications, Inc. New York.

[26] Lapierre, M.A., Vaala, S.E., & Linebarger, D.L. (2011), "Influence of licensed spokescharacters and health cues on children's ratings of cereal taste," Arcg Pediatr Adolesc Med, 165, 3, 229-234.

[27] Lee, H., & Cho, C. H. (2017). An application of brand personality to advergames: The effect of company attributes on advergame personality. Computers in Human Behavior, 69, 235-245.

[28] Lee, M. & Faber, R. J. (2007), "Effects of product placement in on-line games on brand memory," Journal of Advertising, 36, 4, 75-90.

[29] Mackay, T., Ewing, M., Newton, F., and Windisch, L. (2009), "The effect of product placement in computer games on brand attitude and recall," International Journal of Advertising, 28, 3, 423-438.

[30] Martí-Parreňo, J., Aldás-Manzano, J., Currás-Pérez, R. & Sánchez-García, I. (2013), "Factors contributing brand attitude in advergames: Entertainment and irritation," Journal of Brand Management, 20, 5, 374-388.

[31] Martí-Parreño, J., Ruiz-Mafé, C., & Scribner, L. L. (2015). Acceptance of Branded Video Games (Advergames): A Cross-Cultural

[32] Mastrocola, V. M. (2010). Advergames: games as marketing tools.

[33] MacKenzie, S.B, and Lutz, R.J. (1989), "An empirical examination of the structural antecedents of attitude toward the ad in an advertising pretesting context," Journal of Marketing, 53, 48-65.

[34] Molesworth, M. (2005), Real brands in imaginary worlds: Investigating players' experiences of brand placement in digital games, Version 348 revised Jan 2005, Bournemouth University, Media School.

[35] Morton, C. R., & Friedman, M. (2002). "I saw it in the movies": Exploring the link between product placement beliefs and reported usage behavior. Journal of Current Issues & Research in Advertising, 24(2), 33-40.

[36] Morillas, A. S., & Martín, L. R. Advergaming: An Advertising Tool with a Future. 'La Crisis' and Contemporary Spanish Media Studies, 14.

[37] Neely, S.M, & Schumann, D.W. (2004), "Using animated spokes-characters in advertising to young children: Does increasing attention to advertising necessarily lead to product preference?" Journal of Advertising, 33, 3, 7-23.

[38] Nelson, M. R. (2002), "Recall of brand placements in computer/video games," Journal of Advertising Research, 42, 2, 80-92.

[39] Nelson, M. R., Keum, H. & Yaros, R.A. (2004), "Advertainment or adcreep? Game players' attitudes toward advertising and product placements in computer games," Journal of Interactive Advertising, 5, 1, 3-30.

[40] Ogletree & Drake (2007), "College students' video game participation and perception: Gender differences and implications," Sex Roles, 56, 537-542.

[41] Percy, L. & Rossiter, J.R. (1992), "A model of brand awareness and brand attitude advertising strategies," Psychology & Marketing, 9, 4, 263-274.

[42] Peters, S., & Leshner, G. (2013). Get in the game: The effects of game-product congruity and product placement proximity on game players' processing of brands embedded in advergames. Journal of Advertising, 42, (2-3), 113-130.

[43] Shah, S.S.H., Aziz, J., Jaffari, A.R., Waris, S., Ejaz, W., Fatima, M., & Sherazi, S.K. (2012), "The impact of brands on consumer purchase intentions," Asian Journal of Business Management, 4, 2, 105-110.

[44] Shan, L. H., Chin, T. A., Sulaiman, Z., & Muharam, F. M. (2016). A Review of Effective Advertising on Mobile Phones.

[45] Sirgy, M.J. (1985), "Self-image/product-image congruity and consumer decision-making," International Journal of Management, 2, 49-63.

[46] Sirgy, M.J., Lee, D.J., Johar, J.S. & Tidwell, J. (2008), "Effect of self-congruity with sponsorship on brand loyalty," Journal of Business Research, 61, 1091-1097.

[47] Taylor, D.G, Lewin, J.E. & Strutton, D. (2011), "Friends, fans, and followers: Do ads work on social networks? how gender and age shape receptivity," Journal of Advertising Research, 258-275.

[48] Vashisht, D. (2016). Advergames: non-traditional and interactive form of advertising.

[49] Wanick Vieira, V. (2017). A framework for cross-cultural advergame design: a comparison between Brazil and the UK (Doctoral dissertation, University of Southampton).

[50] Wen, Y. (2016). Connecting Mobile Game Advertising with Local Stores (master's thesis).

[51] Wise, K., Bolls, P.D., Kim, H., Venkataraman, A. & Meyer, R. (2008), "Enjoyment of advergames and brand attitudes: The impact of thematic relevance," Journal of Interactive Advertising, 9, 1, 27-36.

[52] Yang, Y., Asaad, Y., and Dwivedi, Y. (2017). Examining the impact of gamification on intention of engagement and brand attitude in the marketing context. Computers in Human Behavior,73, 459-469.

[53] Yang, M., Roskos-Ewoldsen, D. R., Dinu, L. & Arpen, L. M. (2006), "The effectiveness of 'in-game' advertising: Comparing college students' explicit and implicit memory for brand names," Journal of Advertising, 35, 4, 143-152.

[54] Zarantonello, L. & Schmitt, B. (2012), "The impact of event marketing on brand equity: The mediating roles of brand experience and brand attitude," International Journal of Advertising, Available at SSRN: http://ssrn.com/abstract=2175793