

## **A Study on the Effects of Advertising Attributes in YouTube e-sport Video**

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### ***Abstract***

*The purpose of this study is to analyze the structural relationship among advertising attribute, advertising attitude, product attitude and purchase intention in YouTube advertising. The survey subjects to achieve the purpose of this study were selected the group of 300 students who have been watching YouTube VOD once more and are attending in three universities that are located in Seoul, Gyeonggi and Chungnam. Data processing was done with SPSS 23 for frequency analysis, Cronbach's  $\alpha$  analysis. Also, AMOS 18 was used for confirmatory factor analysis and structural equation model analysis. information, irritation and individuality affect viewers' advertisement attitude, their product attitude and purchasing intent, among advertisement attributes of e-sports items perceived by viewers of YouTube's e-sports videos with the insertion of advertisements that cannot be skipped in the middle of the video. Therefore, the similarity between the video and the advertised product or brand should be taken into account when producing advertisements inserted in the YouTube video, and a more positive advertising effect can be achieved when advertisement can be carried out reflecting the characteristics of the target viewers.*

**Keywords:** *YouTube, advertising attribute, advertising attitude, product attitude, purchase intention.*

### **1. Introduction**

YouTube, created in 2005, is now the world's largest video social media. YouTube is playing a major role in spreading cultural phenomenon as many people in various countries around the world upload, view, comment and communicate with others of similar interest<sup>[1]</sup>.

According to the statistics of 2018, 1.57 billion users per month are active on YouTube, with more than 30 million daily visits. So far, more than 5 billion videos have been posted on YouTube, with viewers watching for an average of 40 minutes a day and millennium generation preferring YouTube to TV<sup>[1]</sup>.

People are using YouTube as a learning space where they can find information and learn things as well as

for entertainment such as watching TV and movies, and listening to music etc<sup>[2]</sup>. YouTube has become a powerful online space for sharing and spreading experience and communicating with a wide variety of people as people create, post and share contents of their interest<sup>[3]</sup>. As a result, it is receiving attention as a new marketing channel for companies. In other words, YouTube is used as an advertising medium because various advertisements are inserted in various videos.

A variety of advertisements are being inserted before, after and even into the middle of YouTube videos. In particular, various advertising methods are being explored and utilized, such as the insertion of advertisements that cannot be skipped in the middle of the video. However, while such advertisements may have a high effect of exposure to viewers, they may also give consumers a negative impression.

One of the ultimate goals companies want to gain from investing in advertising is to increase the purchase of consumers in targeted markets<sup>[4]</sup>. In order to enhance the direct effectiveness of such advertisements, it is necessary to study the relationship between advertisement attributes advertisement attitudes, and purchasing intent etc<sup>[5]</sup>. Advertisement attributes are found in many studies to be related to advertisement attitudes, product attitudes, and purchasing intent etc. Therefore, this study seeks to identify the relationship between advertisement attributes advertisement attitudes, product attitudes and purchasing intent in order to find out the advertising effects on viewers watching non-skip advertisements for e-sports items inserted in e-sports YouTube videos. The results of the study are expected to be able to provide companies or YouTube managers with basic data for advertising strategies in the future.

## **2. Study hypothesis**

The current study established hypothesis based on theoretical bases from previous literature. The causal relationships among advertisement attribute, advertisement attitude, product attitude and purchase intention were the focus of the study. The following sections discuss the detailed relationship between these concepts, based on the model of the current research.

### **2.1 Relationship between advertising attribute and advertising attitude**

The nature of the advertisements inserted into YouTube videos will affect the advertisement attitudes. In this regard, in a study of viewers' attitudes to SNS advertisements by Taylor, Kim, Noh & Lee<sup>[5]</sup>, entertainment, irritation and information has appeared to have a positive effect on SNS's advertisement attitudes. In addition, a study by Hwang & Kim (2012) presented individuality as a sub-factor of advertisement attributes affecting advertisement attitude<sup>[6]</sup>. The results of these preceding studies show that entertainment, information, inconvenience and individuality, which are sub-factors of advertisement attributes, can affect advertisement attitudes. Therefore, the following hypotheses were established for the relationship between advertisement attributes and advertisement attitudes:

Hypothesis 1. The advertising attributes of YouTube advertising will have a significant impact on advertising attitudes.

Hypothesis 1-1 Entertainment will have a significant impact on advertising attitude.

Hypothesis 1-2. Information will have a significant impact on advertising attitude.

Hypothesis 1-3. Irritation will have a significant impact on advertising attitude.

Hypothesis 1-4. Individuality will have a significant impact on advertising attitude

**2.2 Relationship between advertising attitude and product attitude**

The viewer's attitude toward advertisements in YouTube videos can affect their attitude toward advertised products. With respect to this relationship between advertisement attitudes and product attitudes, Yeom, Sung & Kim(2014) said in a study of viewers of virtual advertisements that the attitude of viewers toward advertisements has a positive effect on their attitudes toward advertised products<sup>[7]</sup>. And Yong et al(2011) and Jin(2011) said that viewers' attitudes toward advertising formed through advertisements affect their attitudes toward products<sup>[8][9]</sup>. Therefore, the following hypothesis was established for the relationship between advertising attitudes and product attitudes through the results of the above preceding studies.

Hypothesis 2. Advertising attitude will have a significant effect on product attitudes.

**2.3 Relationship between advertising attitude and purchase intention**

The viewers' attitudes toward advertisements in YouTube videos can affect their willingness to buy products. In this regard, Kim, Noh & Lee(2018) stated that the more positive the viewers' attitude toward the advertisement for sporting goods, the more they intend to purchase sporting goods<sup>[5]</sup>. And Yong et al(2011)'s study also stated that the customer's advertisement attitude has a positive effect on the intent of purchasing the product<sup>[8]</sup>. The results of these preceding studies show that there is a relationship between advertisement attitude and purchasing intent. Therefore, the following hypothesis was established for the relationship between advertisement attitudes and purchase intention.

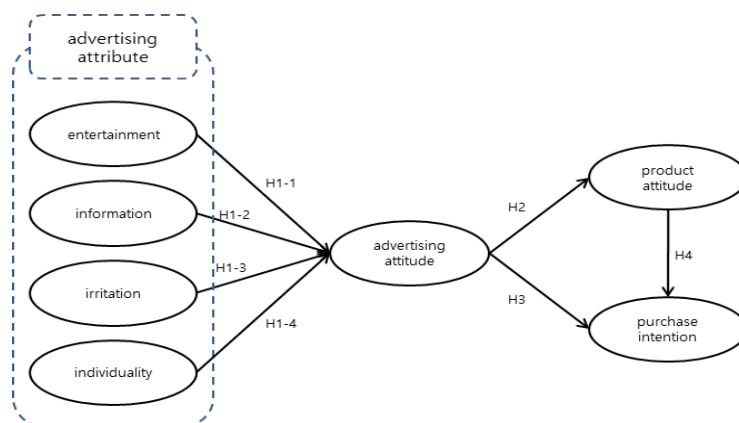
Hypothesis 3. Advertising attitude will have a significant impact on purchase intention

**2.4 Relationship between product attitude and purchase intention**

The viewers' attitudes toward products advertised in YouTube videos can affect their willingness to buy products. Regarding such relationship between product attitudes and purchasing intent, Yeom at al(2014) stated that the viewer's attitude toward advertised products formed through advertisements has a positive effect on their intention to purchase them<sup>[7]</sup>. In addition, Jin(2011) found in their advertising-related studies that viewers' product attitudes affect their purchasing intent<sup>[9]</sup>. The results of these preceding studies show that product attitudes can affect the intent to purchase. Therefore, the following hypothesis was established for the relationship between product attitudes and purchasing intent.

Hypothesis 4. Product attitude will have a significant impact on purchase intention

The following <figure 1> shows a model built around the hypothesis of this study



**Figure 1. Study model**

### 3. Research method

#### 3.1 Research subjects

The subjects of this study are viewers who have watched e-sports videos on YouTube. A survey was conducted on 300 university students from universities in Seoul, Gyeonggi Province and South Chungcheong Province. For this study, the survey participants were required to watch a 5-minute edited video before answering the questionnaire. The video includes a 15-second commercial that cannot be skipped in the middle of the video, such as one on YouTube.

#### 3.2 Research tools

The research tool of this study is questionnaire. To measure all concepts, the questions used in the preceding studies were modified and supplemented to the purpose of this study. In the questionnaire, advertising attribute comprises 16 questions consisting of 4 sub-factors. Advertising attitude of 4 questions, and product attitude consist of 4 questions. Purchase intention consists of 4 questions

### 4. Results

#### 4.1 Validity and reliability analysis

The confirmatory factor analysis was done for the testing of convergent validity and discriminant validity. The maximum likelihood (ML) method which assumes multivariate normality was used for substantial analysis. The fit of the confirmatory factor analysis was evaluated for the confirmation of the optimal condition of the construct and the variation configuration and the results are shown in <Table 1>.

Based on the opinion that the fit index in a structural equation model can be judged together with other indexes by a relative index instead of an absolute criteria<sup>[10]</sup>, the fit was verified with the TLI and CFI suggested by Netemeyer, Boles, McKee & McMurrian<sup>[11]</sup> and the  $X^2/df$  value (less than standard 3) and RMSEA proposed by Kim though the  $X^2$  value did not meet the standard<sup>[12]</sup>. The results of TLI=.944, CFI=.953,  $X^2/df=1.837$  and RMSEA=.053 show that the fit was relatively satisfactory. In addition, all the scores of the standardized regression weights (over .5), the value of average variance explained (AVE) and construct reliability (over .7) were more than the standard value showing the satisfactory convergent validity.

Fornell & Larcker stated that there is discriminant validity between the two constructs if the value of AVE of each construct is more than the squared value of the correlation coefficient<sup>[13]</sup>. Therefore, the value of AVE presented in <Table 2> was compared with the squared value of the correlation coefficient of each concept in the correlation analysis. As the value of AVE is more than the squared value of the correlation coefficient, the scales used in this study have discriminant validity.

After the verification of convergent validity and discriminant validity, Cronbach's  $\alpha$  testing was conducted for the verification of the reliability of the internal consistency of each factor. As shown in <Table 1>, the values of Cronbach's  $\alpha$  in all factors are over .7 suggested by Nunnally & Bernstein<sup>[14]</sup> thus proving the internal consistency of all the factors.

**Table 1. Confirmatory factor analysis & reliability**

Factors	S.E.	M.E.	t	C. R	AVE	Cronbach's $\alpha$
Entertainment	.835	.223	-	.881	.713	.857
	.847	.246	15.757			
	.778	.345	14.485			

Information	.736	.424	-	.883	.716	.859
	.746	.321	12.148			
	.837	.284	13.467			
	.788	.293	12.796			
Irritation	.845	.275	-	.880	.647	.857
	.750	.396	14.881			
	.916	.149	19.513			
	.791	.353	16.096			
Individuality	.784	.360	-	.903	.700	.896
	.928	.120	18.402			
	.921	.140	18.232			
	.800	.370	15.189			
Advertising attitude	.893	.102	-	.923	.750	.916
	.772	.245	14.442			
	.652	.360	11.940			
Product attitude	.754	.237	-	.884	.720	.796
	.779	.230	12.792			
	.744	.226	12.152			
	.707	.259	11.689			
Purchase intention	.725	.394	-	.903	.701	.835
	.891	.204	14.416			
	.895	.203	14.431			

$\chi^2=459.148(df=250, p=.000)$ ,  $X^2/df=1.837$ ,  $TLI=.944$ ,  $CFI=.953$ ,  $RMSEA=.053$

**Table 2. correlation analysis**

Factors	1	2	3	4	5	6	7
Entertainment	1						
Information	.546***	1					
Irritation	-.169*	-.042	1				
Individuality	.454***	.125	-.260***	1			
Advertising attitude	.362***	.271***	-.217**	.411***	1		
Product attitude	.195**	.207**	-.138*	.271***	.730***	1	
Purchase intention	.209**	.281***	-.088	.126	.262***	.318***	1

\* $p<.05$ , \*\* $p<.01$ , \*\*\* $p<.001$

### 4.2 Hypothesis verification result

To verify the hypotheses established in this study, an SEM analysis was performed using AMOS 18. The results show that<Figure 2>, <Table 3>.

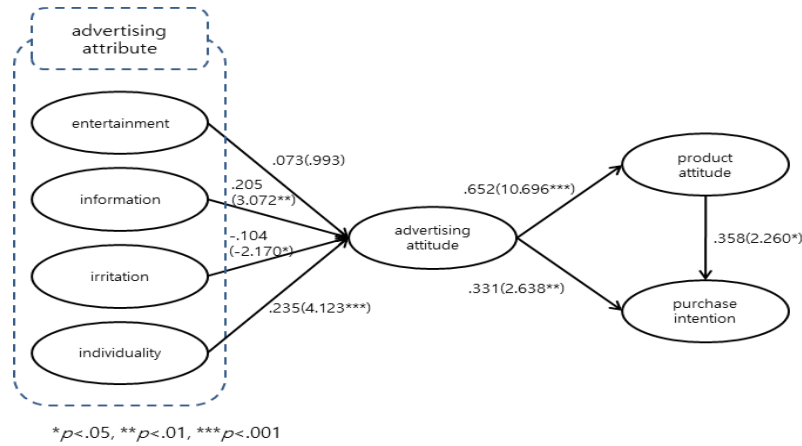


Figure 2. Result model

Table 3. Hypothesis verification result

	Hypothesis		Estimate	S.E.	t
H1-1	Entertainment	→ Advertising attitude	.073	.074	.993
H1-2	Information	→ Advertising attitude	.205	.067	3.072**
H1-3	Irritation	→ Advertising attitude	-.104	.048	-2.170*
H1-4	Individuality	→ Advertising attitude	.235	.057	4.123***
H2	Advertising attitude	→ Product attitude	.652	.061	10.696***
H3	Advertising attitude	→ Purchase intention	.331	.126	2.638**
H4	Product attitude	→ Purchase intention	.358	.158	2.260*

$\chi^2=491.742(df =256, p =.000)$ ,  $\chi^2/df =1.921$ , TLI=.939, CFI=.948, RMSEA=.056

### 5. Conclusion

From the results of the study, one can see that information, irritation and individuality affect viewers' advertisement attitude, their product attitude and purchasing intent, among advertisement attributes of e-sports items perceived by viewers of YouTube's e-sports videos with the insertion of advertisements that cannot be skipped in the middle of the video. Therefore, the similarity between the video and the advertised product or brand should be taken into account when producing advertisements inserted in the YouTube's e-sports video, and a more positive advertising effect can be achieved when advertisement can be carried out reflecting the characteristics of the target viewers. In other words, it should be explored how to expose viewers to advertisement inserts that effectively reflect the product or brand in which each YouTube viewer is interested, and advertisements should be produced in a way that they can contain the information that consumers want into a short period of time. In addition, viewers are likely to experience a lot of inconvenience due to the nature of the advertisement inserted into the middle of the video, which cannot be skipped. Therefore, efforts should also be made to reduce inconvenience for advertising viewers.

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