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RESEARCH ARTICLE

EVALUATING COMMUNICATION EFFECTIVENESS OF YOUTUBE ADVERTISEMENTS

Sarah Jane Anthony[1], Vanessa Liu[2,*], Calvin Cheng[3] and Fei Fan[4]

[1]School of Business, Singapore University of Social Sciences, Singapore
[2]Senior Lecturer, School of Business, Singapore University of Social Sciences, Singapore
[4]Lecturer, College of Professional and Continuing Education, The Hong Kong Polytechnic University, Hong Kong
[5]Lecturer, College of International Education, Hong Kong Baptist University, Hong Kong

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ABSTRACT

Online video advertising continues to play an important role in increasing brand awareness in recent years. This paper aims to develop and test a feasible conceptual framework about how video advertising characteristics and technological interactivity influence target audience's receptiveness of designated advertising messages and their behavioral intention. A survey was conducted with over 170 valid Internet savvy viewers in Singapore. Using structural equation modeling, the study found that brand recognition was directly influenced by advertising informativeness and technological interactivity. Surprisingly, advertising obtrusiveness was found to have no significant effect on brand recognition. Brand recognition also had direct impact on purchase intention. The theoretical and practical contributions of the study were discussed.

INTRODUCTION

With Internet ubiquity, online video advertising continues to play an important role in increasing brand awareness as it enables a wide reach to audiences. In Singapore, for instance, about 92% of households were using Fibre Broadband connections that has facilitated easy access to online videos (IMDA, 2018). In addition, mobile penetration rate in Singapore were steadily growing at 154% across the total population (IMDA, 2019) as compared to an average of 90% in other developed countries (Deloitte, 2017). The popularity of online advertisements was evidenced from the spending of US$63 million on social media advertising and US$19.2 million on video advertising in Singapore in 2019 (Statista, 2019). Prior researchers reported that advertisements on online media could lead to a positive attitude towards the advertisement through its interactivity and ability to engage viewers. (Calder, Malthouse & Schaedel, 2009). Besides, online digital advertisements were also personalized, intrusive and highly visually striking (Goldfarb & Tucker, 2011). Compared to traditional media, advertising on digital platforms could be tailored closely as it was context-specific based on the user's searches with personalized advertising text (Tucker, 2014).

Corresponding author: **Vanessa Liu,**
[2]Senior Lecturer, School of Business, Singapore University of Social Sciences, Singapore.

This explained why advertisers preferred to advertise on social media sites such as YouTube as targeted advertising was more appealing and impactful to viewers (Tucker, 2014). Previous studies mainly tested the factors affecting online video advertising in isolation. It is not clear whether all of their effects remain significant when other factors are in place. In this study, it is therefore aimed to integrate determinants of brand recognition and examine the relative importance of informativeness, obtrusiveness, interactivity in driving brand recognition and purchase intention of viewers.

LITERATURE REVIEW

In formativeness and Brand Recognition: Informativeness referred to the ability to provide relevant information effectively (Oh and Xu, 2003). Informative advertisement properly informed the viewer of the true nature of the product (Boyer, 1974). Resnik and Stern (1977) asserted that an informative advertisement permitted a viewer to make a more informed buying decision. These advertisements provided useful product information and audiences were engaged for cognitive information processing. The advertisements were more worthwhile to watch as target audiences derived tangible benefits from the advertisements. As a result, a reduced level of intrusiveness was perceived and thus irritation was avoided (Goodrich, Schiller & Galletta, 2015; Li, Edwards & Lee,

2002). Informative advertisements attracted viewers to watch the full advertisement and gave them more time to process the advertised message in an in-depth way. Increased cognition of the advertised product later improved brand recognition (Li & Lo, 2015). Therefore, hypothesis 1 was developed:

H1: Informativeness is positively associated with brand recognition.

Obtrusiveness and Brand Recognition: Obtrusiveness is the degree of notice ability to people. Effectiveness of obtrusiveness in advertising was determined by repetition. Studies have shown that repeated exposure to an advertisement gave audiences more time to ponder and elaborate about the advertised message (Cacioppo & Petty, 1979). Repeated exposure and extra elaboration time enabled consumers to learn and retain the information from the message better (Ephron, 1995). Audiences tended to exhibit more positive attitude towards an advertisement and found it to be more persuasive if the number of exposures increased (Singh, et al., 1983, 1995; Craig, Sternthal & Leavitt, 1976).

According to Singh et al. (1995), an advertising message that was repeated twice generated a higher recognition after the second exposure. Krugman (1982) even argued that only three times of exposure to the advertisement were needed to achieve brand recognition. The first exposure led to curiosity about the product and brand. The second exposure jolted their brand recognition. Thereafter, the recognition awakened the audience's cognitive thinking and personal evaluation of the product usefulness. After the third exposure, the audience would have reached a purchase decision. Based on this, hypothesis 2 was developed:

H2: Obtrusiveness is positively associated with brand recognition.

Interactivity and Brand Recognition: Interactivity meant the amount and quality of two-way communication between parties (Auger, 2005). Distinct from traditional advertising, interactive advertising allowed firms to understand how consumers responded to the advertisement through feedback. It also informed the advertiser of the types of information in which the audiences were interested (Pavlou & Stewart, 2000). Interactive advertising gave viewers greater control in the viewing experience with the product information. It offered the consumers a more personal sense as compared to traditions media (Lombard & Snyder-Duch, 2001). Besides, Coyle (1997) highlighted that the number of clickable surfaces on a website would lead to more positive attitude toward the advertisement and a stronger intention to purchase. Subsequently, Coyle et al. (2001) found that as the level of interactivity and vividness of the website increased, so did the perceptions of telepresence grow stronger. Therefore, interactive advertising was perceived to be more effective as there was a reaction that invited engagement and drove responses (Calder, Malthouse & Schaedel, 2009). Especially for YouTube advertisements that were more intrusive in nature, engagement could attract attention to the message and enhance memorization (Li & Lo, 2015). It is therefore proposed that:

H3: Interactivity is positively associated with brand recognition.

Brand Recognition and Purchase Intention: Brand recognition referred to people's ability to recognize the brand (Thaichon & Quach, 2015), whereas, purchase intention was people's tendency to purchase a brand routinely in the future (Diallo, 2012). The relationship between brand recognition and purchase intention was well documented in the marketing and communication contexts. For example, a recent survey study with 583 respondents found that individuals with a higher level of brand recognition tended to have stronger motivation to buy endorsed products (Chan, Chan, & Tang, 2017). Besides, promotional tactics such as advertising, celebrity-endorsement and product placement, were found to be effective in raising brand awareness and hence brand recognition (Kamins, & Gupta, 1994; Pervan & Martin, 2002). It is therefore hypothesized that:

H4: Brand recognition is positively associated with purchase intention.

The proposed conceptual framework of the current study is depicted in Fig. 1.

RESEARCH METHODOLOGY

Data Collection: An online survey was administered to YouTube users aged from 13 to 80. This age group represented three-quarters of the population of Singapore (Singstat, 2019). This age range covered the ages of the highest Internet user base of 14 to 60 years old (IMDA, 2018). Participants were informed that they could withdraw from the survey at any time. Voluntary responses were collected from a total of 203 users. Incomplete and invalid responses were eliminated from the final data set, which comprised of 172 responses. About 35% of the respondents aged at 13-29, 40% at 30-48 and 25% was over the age of 49.

Survey Instrument: A structured questionnaire measuring people's purchase intention, brand recognition and the three determinants of brand recognition (informativeness, obstructiveness and interactivity) was designed and used in the online survey. Each respondent received one set of questionnaire and was exposed to a YouTube advertisement. After watching the YouTube advertisement, the respondents were asked if they were familiar with the advertisement to test if they acquired prior familiarity with the advertisement. Responses with prior familiarity were not included in the final analysis. The respondents were allowed to control the start of playing, pausing and replaying the assigned advertisement. After watching the advertisement, they were asked to answer questions relating to brand recognition.

The final questionnaire consisted of five sections as shown in Table 1. The measurement items were adapted from previous literature. A 5-point Likert scale (ranging from '1 = strongly disagree' to '5 = strongly agree') was employed to measure all the items.

DATA ANALYSIS

The data collected was analyzed using Partial Least Squares (PLS). PLS was one of the multivariate data analysis methods (referred to as Structural Equation Modeling or SEM) that tested

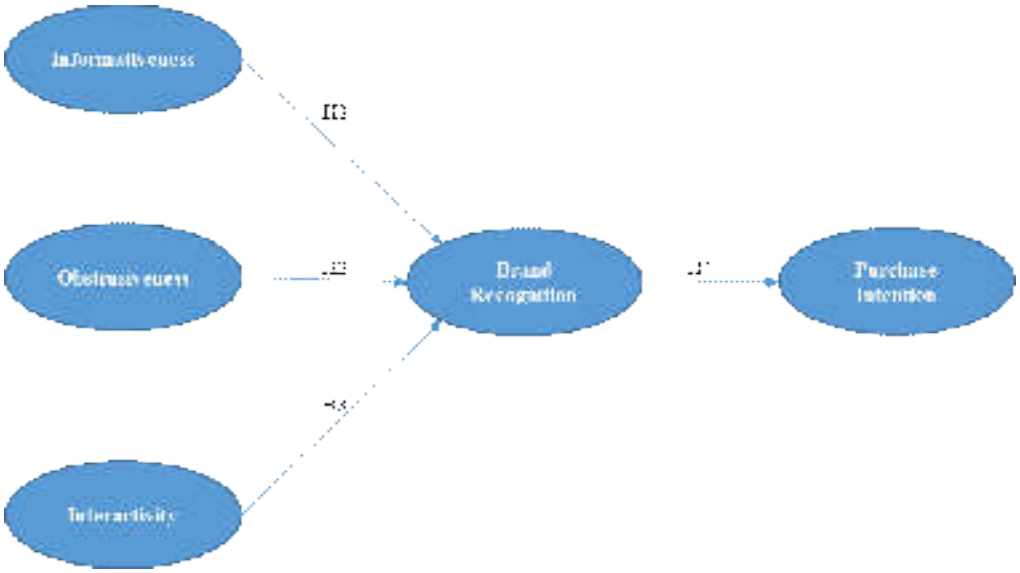

Fig. 1. The conceptual framework

Table 1. Measurement items

Label	Items	Sources
Informativeness		
INFM 1	I only watch a full advertisement on YouTube if it is informative or related to the brand I am interested in.	(Li & Lo, 2015)
INFM 2	I only watch an advertisement if it is a brand I am familiar with.	(Li & Lo, 2015)
INFM 3	I already intend to skip the pre-roll advertisement before clicking on the YouTube video.	(Li & Lo, 2015)
Obtrusiveness		
OBTR 1	I remember the brand better if an advertisement is repeated multiple times.	(Goldfarb & Tucker, 2011)
OBTR 2	I can recall the brand name from an advertisement that I have watched within this week.	(Goldfarb & Tucker, 2011)
OBTR 3	I have viewed the advertisement for serveral times.	(Goldfarb & Tucker, 2011)
Interactivity		
INT 1	I would not skip an advertisement if it was interactive.	(Calder, Malthouse, & Schaedel, 2009)
INT 2	I would likely click on the link to the brand's website to find out more.	(Calder, Malthouse, & Schaedel, 2009)
INT 3	I would likely join in the comments on an advertisement if it invites discussion.	(Calder, Malthouse, & Schaedel, 2009)
Brand Recognition		
RECG 1	I can remember the name of the brand from the advertisement.	Cher & Arumugam, 2019; Li & Lo, 2015)
RECG 2	I am familiar with the brand.	Cher & Arumugam, 2019; Li & Lo, 2015)
RECG 3	I have heard of the brand from YouTube or other media sources.	Cher & Arumugam, 2019; Li & Lo, 2015)
Purchase Intention		
PRCH 1	The advertisement made me interested to purchase the product/ service of the brand.	Cher & Arumugam, 2019; Li & Lo, 2015)
PRCH 2	I would purchase the advertised product/service of the brand after watching the advertisement.	Cher & Arumugam, 2019; Li & Lo, 2015)
PRCH 3	I would be very likely to purchase the product/ service of the brand if the advertisement included an exclusive YouTube discount code.	Cher & Arumugam, 2019; Li & Lo, 2015)

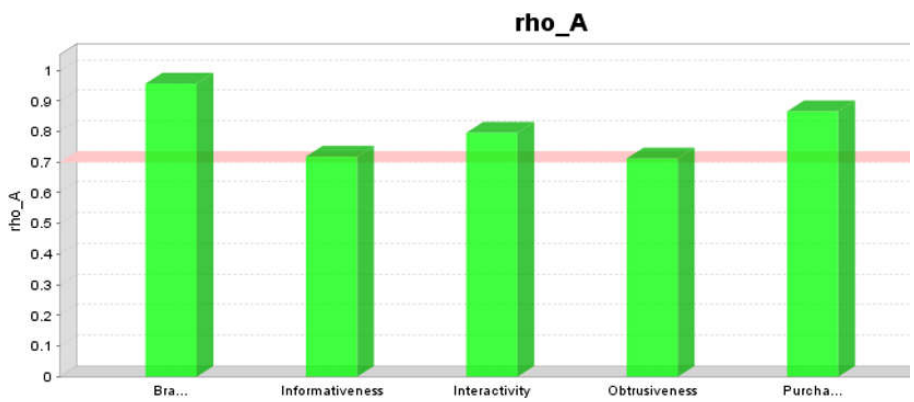

Fig. 2. rho_A values

theoretically supported linear and additive causal models (Chin, 1998; Haenlein & Kaplan, 2004). Marketers utilized SEM to visually examine and observe the relationships between independent and dependent latent variables, which were also known as constructs or factors (Wong, 2013). PLS has become a popular statistical technique to test and estimate causal relationships using a combination of statistical data and qualitative causal assumptions (Sarstedt & Cheah, 2019).

Reliability Test: The reliability of the variables in terms of unidimensionality of the set of scale items was tested by computing the rho_A for each variable as proposed by Chin (1998). rho_A was a better reliability measure than Cronbach's alpha in SEM, since it was based on the loadings rather than the correlations observed between the observed variables. The rho_A values (Fig. 2) of all variables were over 0.70, demonstrating high reliability of the variables.

Validity Test: To examine discriminant validity, loading and cross-loading criterion (Table 2) and Fornell- Larcker criterion (Table 3) were assessed. The results indicated that all measurement items were loading strongly onto the intended factors with low cross-loadings. The average variance-extracted value for each factor was greater than the squared correlations between that factor and the other factors. The results showed evidence of discriminant validity.

PLS-SEM Analysis: PLS-SEM analysis was conducted to assess the hypothesized causal relationships between the variables. Fig. 3 showed the results of the structural model. Informativeness ($\beta = 0.333$ with $p < 0.01$) and interactivity ($\beta = 0.357$ with $p < 0.01$) were found to have significant direct effect on brand recognition. Surprisingly, obtrusiveness was found to have no or insignificant influence over brand recognition. Besides, brand recognition ($\beta = 0.374$ with $p < 0.01$) appeared to be significant in affecting purchase intention.

RESULTS AND FINDINGS

The study results showed that informativeness of online video advertisement was significantly and positively related to brand recognition, providing support for H1. This revealed that the informative advertisements significantly led to stronger brand recognition among target consumers. Obtrusiveness was found to be insignificant to brand recognition. Therefore, H2 was rejected. This indicated that viewers may not recognize a brand even if the advertisement was played repetitively. The effect of interactivity on brand recognition was positive and significant, showing that H3 was supported. This showed that interactive advertisements could enhance customers' impression of the focal brand in the commercial. Finally, brand recognition was found to exhibit a positive and significant impact on purchase intention, supporting H4. This revealed that customers were more likely and intentionally to purchase from a brand that they could recognize.

DISCUSSION AND CONCLUSION

This study presents empirical evidence on the key factors that determine the effect of video advertising on brand recognition and purchase intention. The study analyzed several characteristics of video advertisements, namely, informativeness, obtrusiveness and interactivity. Informativeness and interactivity were found to be significant in affecting brand recognition, while obtrusiveness was found to have no impact on brand recognition. The findings suggest that customers now place a greater emphasis on the content, usefulness and the design of the advertisements. That is, it matters more whether the advertisement provides informative content and whether it features interactivity that could better engage customers. This study presents several contributions to the literature on online video advertisement effectiveness. First, an integrated model explaining the effect of online video advertisement on brand recognition and purchase intention has been presented, including factors that were tested in isolation in the past. This approach allows the examination of the relative importance of each factor in a collective model. Contrary to prior studies, the study finds that the significance of the impacts of obtrusiveness vanishes in presence of factors of interactivity and informativeness. One possible explanation is that the mentality of Internet users has evolved. Repetitive video advertisements online were reported previously to enhance the impression of viewers (Singh et al. 1983, 1995). As Internet users have become more goal-orientated, they might have developed stronger psychological screening that blocked advertisements irrelevant to their interests (Cho & Cheon, 2004). Another important implication to the literature is the diminishing role of passive learning (Krugman & Hartley, 1970). Our findings challenge the applicability of passive learning to the advertising context. Traditionally, repetitive advertisements tend to lead to stronger impression of viewers. With the proliferation of information technology and growing technology savviness, users now hold greater control over the content to view. They are also becoming more and more selective in spending their attention span to avoid overloading by information available online. Obtrusiveness of advertisements may hence result in psychological annoyance and blocking rather than strengthened brand recognition.

Online marketers may benefit from the findings of this study in several ways. First, the design of advertisement should be guided by the content and the interactivity presented to customers. To enhance customers' memory of the focal brands, priority should be given to the in formativeness of the advertising scripts. With the shortening attention span of customers and the ease of switching to other websites, embedding interactivity in video advertisements is key to lead to higher advertising effectiveness. To avoid creating annoyance, customers should be given a "skip the ad" option in case they find the video too lengthy or they have already viewed it repetitively.

In the future, research could be extended to compare the determinants and their relative importance in driving advertising effectiveness for different types of products. For example, the effectiveness of informativeness and interactivity of advertisements on brand cognition may differ for products for which comprehensive explanation is desirable (e.g., automobiles) as compared to convenience goods like bottled water and disposable cutleries that are already understood by customers. The current study is cross-sectional and brand recognition was measured immediately after video viewing was completed. Future researchers may attempt to conduct a longitudinal study and investigate how each factor contributes to the strength of brand recognition over time.

Table 2. Discriminant validity – loading and cross-loading criterion

Item	Brand Recognition	Informativeness	Interactivity	Obtrusiveness	Purchase Intention
INFM 1	-0.184	0.819	-0.470	-0.461	-0.389
INFM 2	-0.147	0.853	-0.574	-0.440	-0.363
INFM 3	-0.154	0.726	-0.861	-0.377	-0.428
INT 1	0.124	-0.563	0.789	0.339	0.385
INT 2	0.229	-0.711	0.875	0.429	0.517
INT 3	0.154	-0.726	0.861	0.377	0.428
OBTR 1	0.217	-0.545	0.396	0.722	0.354
OBTR 2	0.568	-0.284	0.284	0.841	0.398
OBTR 3	0.374	-0.400	0.382	0.831	0.374
PRCH 1	0.219	-0.487	0.475	0.448	0.823
PRCH 2	0.405	-0.203	0.263	0.275	0.786
PRCH 3	0.226	-0.449	0.483	0.357	0.748
RECG 1	0.820	-0.076	0.039	0.399	0.190
RECG 2	0.938	-0.250	0.246	0.453	0.393
RECG 3	0.885	-0.152	0.175	0.382	0.341

Table 3. Discriminant validity – Fornell-Larcker criterion

	Brand Recognition	Informativeness	Interactivity	Obtrusiveness	Purchase Intention
Brand Recognition	0.882				
Informativeness	0.203	0.801			
Interactivity	0.202	0.791	0.843		
Obtrusiveness	0.465	0.534	0.454	0.800	
Purchase Intention	0.374	0.492	0.528	0.471	0.732

Notes: Diagonals are the square root of each of the AVE of the latent variables and indicate the highest in any column or row.

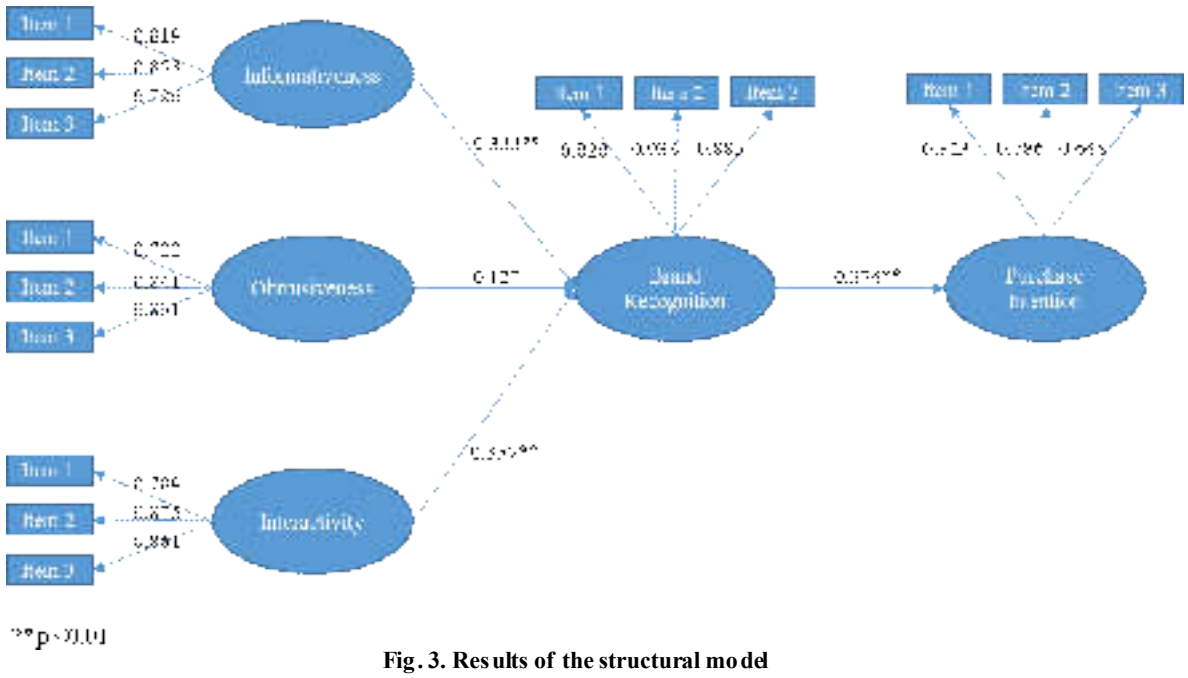

Fig. 3. Results of the structural model

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