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Wu, Chao-Sen; Tsai, Li-Fen

## Article

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# The Research on Relationship among Online Game Endorsement, Adolescent Involvement and Game Purchase Intention

Chao-Sen Wu

Dept. of Business Administration, TransWorld University, Taiwan

Li-Fen Tsai\*

Dept. of Marketing Management, TransWorld University, Taiwan

This research aims to probe the influence of online game endorsement on adolescent involvement and game purchase intention. Involvement means the perceived importance and interest stimulate. The high involvement means consumers will spend more time considering and collecting data in order to make reasonable decision. Data was collected from 366 valid returned questionnaires. The study used Factor Analysis, Correlation, Regression and Mediation Analysis. The research finds that attraction and reliability of online game endorsement significantly and positively influence internal preference and external stimulus of game purchase intention; however, when adolescent involvement is the mediating variable, online game endorsement does not significantly influence game purchase. Thus, this paper suggests that the online game companies should select the suitable game spokespersons and enhance the adolescent's self-judgment.

*Keywords:* Online game, purchase intention, Adolescent involvement, Self-judgment

*JEL:* M31, M37, O33

Since 1990, with the prevalence of internet, online games become the adolescent's most important entertainment (Griffiths and Hunt, 1995). According to the ranking of keyword advertising announced by Yahoo! in the first half of 2009, keywords related to "game" are 4 out of 10. Report of ECPAT (End Child Prostitution, Child Pornography and Trafficking of Children for Sexual Purpose) Taiwan (2009) indicated that over 70 percent adolescents played online game and adolescents who played online games significantly spent more time on internet than those who did not play games. Adolescent's internet use turned from knowledge search to entertainment. The types of popular websites

included music, personal homepage, online game, etc. "Online games" were the websites which teenagers visited the most (Lin, 2009). According to prediction of DFC (Design For Change), output value of global online game market was about USD\$3.4 billion in 2005 and it is expected that in 2011, it will be NTD\$13 billion (Find, 2006). The number of online game users increases and digital channels are more than game retailers. Game will significantly be treated as one of advertising mechanisms. Taiwan Institute for Information Industry demonstrates in report of "Taiwan online user's online entertainment behavior" in October 2005, online user's most frequent online activities are below: "online game", "music" and "online albums". Moreover, 64 percent samples of

online users have played online games. Most of them are 15 to 24 years old (60%). After online games are popular with adolescents, “online games” have been treated as the dangerous index of modern adolescents. Some studies suggest that online games can influence adolescent’s normal development and the effect is more significant than TV (Durkin, 2006). Online games gradually become the main sources of adolescent’s entertainment and it is critical in socialization (Ku, 2004).

Advertising spokespersons enhances the reputation of products and corporate brand image. Thus, advertiser’s brand names and products can immediately become part of the consumer’s memory. By spokesperson’s identification with products in advertising, consumer’s attitude toward advertising is constructed or reconstructed (Mowen and Stepfen, 1980). McCracken (1989) suggested that spokespersons would directly transfer the personality traits to brands; Fence (1991) indicated that advertising upon celebrities’ recommendation would significantly impress the consumers and construct consumer’s trust and intimacy with products or firms. Therefore, well-known advertising spokespersons significantly promote the products.

Stafford, Stafford and Day (2002) indicated that regarding the new products to the market, the celebrities could be the advertising spokespersons since consumers would connect the celebrities with brands and lead to advertising effect and increase consumer’s purchase intention. Shen *et al.* (2007) suggested that information conveyed by advertising would

influence consumer’s purchase intention. According to Mittal (1989), involvement is consumer’s interest and concern for purchase decision making. Schiffman and Kanul (1991) suggested that involvement is consumer’s concern for specific purchase decision making and perceived importance. Schoell and Gultinan (1993) indicated that with different degrees of consumer’s involvement, purchase decision making would be different. According to Chen (2008), purchase involvement reveals significant difference on purchase decision making.

Based on research background and motives above, this study treats adolescents as subjects, probes into influence of online game spokespersons on adolescent involvement and game purchase intention, explores influence of online game endorsement on game purchase intention, analyzes the correlation between online game endorsement and game purchase intention when adolescent involvement is mediating variable and further explore the relationship among variables. The findings can serve as reference to future online game companies and organizations which concern about adolescents.

## LITERATURE REVIEW

### Online Game Endorsement

Online game means personal users install game programs from customer end, connect to game server of game companies through internet in order to play the games. All changed figures in games are kept in server of the game companies (Huang, 2000). In online games, by internet, the players control the roles created to enter a virtual world (Fu, 2003). Based on the above, this study

suggests that online game means game firms construct game server and after installing the programs, the players connect with the servers through internet. Players control the roles in the games and interact with other players in the same virtual world.

McCracken (1989) suggested that by reputation, advertising spokespersons demonstrate the consumer's use benefit in advertising. When consumers received the information from advertising, they would decide the product image according to the image of advertising spokespersons. The transfer of spokesperson's image is one of the main reasons valued by advertisers. O'Gainn, Allen and Semenik (2000), indicated that celebrities, experts and consumers are the most common advertising spokespersons. Schiffman and Kanuk (2004) divided advertising spokespersons into celebrities, experts, people, high rank managers and symbols. Celebrities refer to the well known ones in society, particularly the movie stars, TV celebrities and popular artists. As to advertising spokespersons, Ohanian (1991) and Chanthika (2003) indicated that attraction, reliability and expertise would be measured. Shane (2005) indicated reliability, expertise and favor. Lei and Sung (2009) classified spokesperson's constructs into expertise, reputation, attraction, reliability and exposure. According to Ho and Lee (2010), attraction, reliability and expertise could be measured. Based on the above, this study suggests that online game endorsement is to show the products by spokesperson's reputation, reliability and attraction through advertising. After consumers receive information

from advertising, the image of advertising spokespersons will decide product images.

### **Game Purchase Intention**

Purchase intention means the possibility that consumers have the intention to purchase the products (Dodds *et al.*, 1991; Shen *et al.*, 2007). Engel, Blackwell and Miniard (1990) suggested that purchase behavior is the psychological decision making. In order to satisfy the needs, consumers will search for the related information according to their experience and external environment. After the information is accumulated, consumers start the evaluation and consideration. Upon comparison and judgment, they make purchase decision. It is the process of consumer's "purchase decision making". Zeithaml (1988) and Dodds *et al.* (1991) suggested that after having perceived value, consumers would further develop purchase intention. Moreover, consumer's purchase intention usually depends on the perceived benefits and value. According to Wang *et al.* (2002), purchase intention is the possibility that consumers had the intention to purchase products. Shen *et al.* (2007) suggested that purchase intention could be measured by intention to purchase the products advertised or consumption in the stores and even the efforts to search for the products. Based on the above, this study suggests that game purchase intention is the possibility of consumer's intention to purchase or play games.

### **Adolescent Involvement**

Involvement means the perceived importance and interest stimulated in certain situations (Engel *et al.*, 1982). When there is a high correlation

between purchase and consumers, and when it is more important for consumers, consumers will spend more time considering and collecting data in order to make reasonable decision. The model is called high-involvement purchase decision making. In the opposite situation, it is called low-involvement purchase decision making. Petty and John (1984) suggested that consumers with different degrees of involvement deal with information very differently. According to Zaichkowsky (1985), consumer's involvement is a person's concern about specific things because of basic needs and interest. McCracken (1989) suggested that consumer involvement is the important factor of attitude and behavior. Janssens and De Pelsmacer (2005), and Tung (2008) found that when consumers have high involvement, the quantity and quality of perception would be higher. The consumers explored in this study are adolescents. Based on the above, this study suggests that adolescent involvement means that adolescents are willing to spend more time concerning about the products they are interested in and collect the information.

#### HYPOTHESES DEVELOPMENT

##### **Study on relationship between online game endorsement and game purchase intention**

Kamins (1990) suggested that when spokespersons match the products, endorsement effect would be the most significant. Solomon, Ashmore and Longo (1992), and Lynch and Schuler (1994) indicated the importance of match-up between spokespersons and products by match-up hypothesis. According to Stafford *et al.* (2002), advertising effect (attraction and

attitude toward advertising) of celebrity endorsement is significantly influential. Brian, Sarah, and Randi (2006) suggested that match between spokespersons and types of products are important for consumer's positive attitude. Brand image positively influences consumer's perception and the positive effect would influence customer's satisfaction (Sung and Yang, 2008). Positive brand image would reduce consumer's perceived risk of purchase (Batra and Homer, 2004). Therefore, consumer's cognition of brand image of products will influence their evaluation and selection of products, and further affect purchase intention (Hsieh *et al.*, 2004). In online advertising, the endorsement can be regarded as a tool of visual advertising effectiveness. According to Garretson and Niedrich (2004), the level of consumer's product involvement would have different persuasive effect for different types of spokespersons. Keng *et al.* (2012) indicate that if the consumer is high-involvement, the advertisement persuasive effect of endorsement is better. Lei and Sung (2009) suggested that the starts, with high reputation and charm, would draw consumer's attention by advertising endorsement. In other words, online game endorsement would enhance consumer's purchase intention. Based on literatures review, the hypothesis is proposed as follows:

H<sub>1</sub>: Online game endorsement positively influences game purchase intention.

**The influence of online game endorsement on game purchase intention with the mediating variable of adolescent involvement**

Greenwald and Leavitt (1984) suggested that when consumers highly involve in advertising, it means that advertising information is more relative or important for consumers. Mittal (1989) indicated that involvement is consumer's interest and concern for purchase decision making. According to Schiffman and Kanul (1991), involvement is consumer's concern for specific purchase decision making and perceived importance. Janssens and De Pelsmacer (2005) found that higher consumer's involvement leads to higher product cognition. Yoon and Choi (2005) argued that consumer involvement reveals positive mediating effect between types of products and advertising and attitude toward advertising. It positively affects purchase intention. Chien *et al.* (2007) suggested that when there is a high correlation between information source and types of products, while attitude toward products of consumers with high involvement would be influenced by information reliability. However, when there is a low

indicate that the high degrees of attractive and appropriate spokesmen would have the positive influence on consumer's purchase willingness. Chen (2008) suggested that consumer's purchase involvement significantly influences information search. According to the above, the consumers in this study are adolescents. Therefore, the hypothesis is proposed as follows:

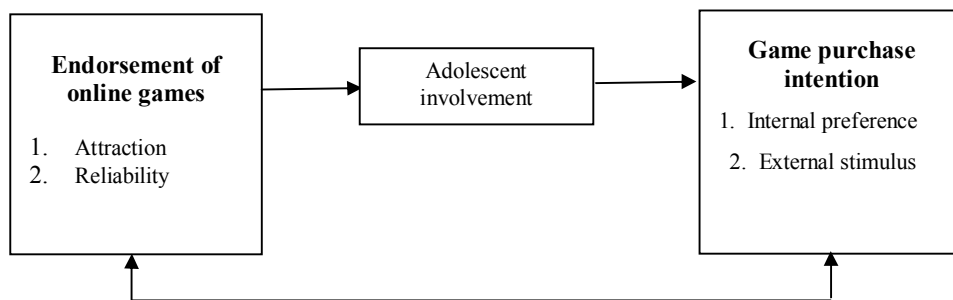
H<sub>2</sub>: Online game endorsement positively influences game purchase intention by adolescent involvement.

## METHODOLOGY

According to research motives, purposes and literature review, the research framework was constructed. Data were collected by questionnaires to validate the hypotheses. Research framework, hypotheses, subjects and measurement of variables were shown below.

### Research Framework

This research treated adolescents as subjects and probes into the correlation among online



**Figure 1. Research Framework**

correlation between information source and types of products, consumers would not be influenced by reliability of information source. Wang *et al.* (2007) explain that Spokesperson will increase consumer pleasure and experience value, thereby increasing purchase intention. Liu *et al.* (2007)

game endorsement, adolescent involvement and game purchase intention. Overall conceptual framework is shown in Figure 1: game purchase intention was influenced by online game endorsement. By treating adolescent involvement as mediating variable, this research analyzed the

correlation among online game endorsement, adolescent involvement and game purchase intention (“→” indicates the direction of effect).

### Measurement of Research Variables

Regarding constructs of this study, according to related literature, variables were defined and operated to meet the purposes of this study and the wording would be accepted by respondents. Two management teachers discussed and revised the items of questionnaire to result in the draft. 30 pretest questionnaires were distributed to ensure the feasibility of questionnaires. Cronbach's alpha ( $\alpha$ ) of online game endorsement was 0.87, Cronbach's  $\alpha$  of adolescent involvement was 0.71 and Cronbach's  $\alpha$  of game purchase intention was 0.72. Cronbach's  $\alpha$  of the constructs were above 0.70. Thus, pretest questionnaire revealed positive reliability.

Regarding questionnaire design, besides personal basic information, other sections were based on 5-point Likert scale: “strongly disagree” (1) to “strongly agree” (5). The content is shown below: online game endorsement: according to reliability source factors of advertising spokespersons indicated by Ohanian (1991), this study measured adolescent's identification with online game endorsement, and there were nine items. Adolescent involvement: it was based on advertising involvement defined by Zaichkowsky (1985), including attention to advertising information and advertising content memory, and there were six items. It aimed to probe into adolescent's involvement in product content information. Game purchase intention was to

measure adolescent's online game purchase intention. There were ten items, including internal preference and external stimulus.

## RESULTS AND FINDINGS

### Basic Characteristics of Sample

A total of 500 formal questionnaires were distributed to adolescents. The participants must be the teenage players of online games. There were 366 valid returned questionnaires, and return rate was 73.2 percent. Of the valid samples, 209 are males (57.1%) and 57 are females (42.9%). These adolescents were 13–19 years old.

### Reliability and Factor Analysis

By Varimax of factor analysis, this research extracted the factors with Eigen Value above 1 in scales and eliminated the items with lower factor loading. By Cronbach's  $\alpha$ , this study measured the internal consistency of constructs. According to Table 1 (See Appendix-I), Cronbach's  $\alpha$  of constructs are above 0.70. Nunnally (1978) suggested that Cronbach's  $\alpha$  above 0.70 is the criterion. Therefore, the reliability of this questionnaire is acceptable.

In scale of online game endorsement, two factors are extracted and accumulated explained variance is 82.87 percent. Factor 1 is related to image and attraction of online game endorsement and it is named “attraction of online game endorsement”; Factor 2 is related to trust, impression and importance of online game endorsement and it is called “reliability of online game endorsement”. Cronbach's  $\alpha$  of these two constructs are 0.68 and 0.73. In scale of game purchase intention, two factors were extracted and accumulated explained variance is

71.66 percent. Factor 1 is related to adolescent's self-intention to select online games and it is named "internal preference"; Factor 2 is related to other's recommendation and it is called "external stimulus". Cronbach's  $\alpha$  of two factors are 0.85 and 0.91. In scale of adolescent involvement, one factor was extracted. Accumulated explained variance is 61.89 percent. The factor is related to adolescents' involvement and recognition of game information and it is called "adolescent involvement". Cronbach's  $\alpha$  of adolescent involvement is 0.84.

According to correlation analysis in Table 2, "attraction of online game endorsement" and "reliability of online game endorsement" reveal positive correlation with "internal preference" and "external stimulus". In other words, when online game spokespersons recommend the products, the higher "attraction" and "reliability" are, the higher adolescent's online game "internal preference" and "external stimulus" will be. There is positive correlation between "adolescent involvement" and "external stimulus". In other words, the higher adolescent's online game external stimulus is, the higher adolescent involvement will be.

Research variables	1	2	3	4	5
1. Attraction of online game endorsement	1.00				
2. Reliability of online game endorsement	.76**	1.00			
3. Adolescent involvement	-.01	-.03	1.00		
4. Internal preference	.60**	.61**	.08	1.00	
5. External stimulus	.51**	.27**	.16**	.35**	1.00

\*\*  $p < 0.01$

Table 2: Correlation Matrix

Criterion variables Predictor variables	Internal preference		External stimulus	
	Model 1	Model 2	Model 3	Model 4
Attraction of online game endorsement	0.60**		0.51**	
Reliability of online game endorsement		0.61*		0.27**
F-Statistics	205.31**	220.04**	129.72**	28.93**
R <sup>2</sup>	0.36	0.38	0.26	0.07

\*  $p < 0.05$ ; \*\*  $p < 0.01$

Table 3: Regression analysis of online game endorsement and game purchase intention

Items extracted by factor analysis in this study match the researcher's original design, indicating the proper construct validity of the scale. The result is shown in Table 1 (see Appendix-I).

**Correlation Among Research Variables**

**Regression Analysis**

This research probes into relationship between online game endorsement (attraction and reliability) and game purchase intention (internal preference and external stimulus) by regression analysis. When criterion variables are internal



preference and external stimulus of game purchase intention and regression variables are attraction and reliability of online game endorsement, regression analysis result demonstrates that attraction and reliability of online game endorsement significantly influences internal preference and external stimulus of game purchase intention ( $\beta$  are 0.60, 0.61, 0.51 and 0.27). It means that the linear relationship exists, as shown in Model 1, 2, 3 and 4.

### Mediation Analysis

Online game endorsement (attraction and reliability) and game purchase intention (internal preference and external stimulus)– adolescent involvement is mediating variable.

Baron and Kenny (1986) indicated the conditions of mediating effect: 1) regression variable significantly influences mediating variable; 2) mediating variable significantly influences criterion variable; 3) after including mediating variable, relationship between regression variable and criterion variable is more insignificant. According to correlation analysis of Table 2, there is no correlation between attraction and reliability of online game endorsement and adolescent involvement. However, there is significant and positive correlation between adolescent involvement and external stimulus of game purchase intention. According to two conditions indicated by Baron and Kenny (1986), the first item of this study does not match the regulation. Therefore, this study realizes that adolescent involvement does not reveal mediating effect on correlation between attraction and reliability of online game endorsement and

internal preference and external stimulus of game purchase intention.

### CONCLUSION

Based on data analysis and results above, attraction of online game endorsement significantly and positively influences internal preference and external stimulus of game purchase intention. Online game companies' enhancement of consumer's high game purchase intention, search for suitable game spokespersons, attraction for consumers and fulfillment of maximum endorsement effect are critical in online game marketing. As suggested by Brian *et al.* (2006), match between spokespersons and types of products are important for consumer's positive attitude. Hsu and McDonald (2002) indicated that celebrity recommendation was based on the attraction and consumers transfer their attitude and feelings toward celebrities to brands. In other words, in online game market, the stars' attraction of products positively enhances internal preference and external stimulus of consumer's online game purchase intention. Therefore, when online game companies search for game spokespersons, how to draw consumer's attention and allow them to transfer product characteristics to spokespersons to enhance purchase intention becomes an important issue; reliability of online game endorsement significantly and positively influences internal preference and external stimulus of game purchase intention; in other words, reliability of online game spokespersons will enhance consumer's internal preference and external

stimulus. Likewise, in researches, Shane (2005) and Chou *et al.* (2008) suggested that experts and celebrities persuasion was based on their reliability and expertise. Thus, consumers would recognize their sincerity and professional judgment and further accept the products. According to findings of this study, online game spokesperson's product reliability will increase consumer's internal preference and external stimulus of game purchase intention.

According to outcome of data analysis, influence of online game endorsement and adolescent involvement on game purchase intention is insignificant. When adolescent involvement is treated as mediating variable, influence of online game endorsement on game purchase intention is insignificant. Generally speaking, upon adolescent's game involvement, attraction or reliability of online game endorsement will not enhance internal preference and external stimulus of game purchase intention. This study demonstrates that adolescent's game involvement will not influence purchase intention of online game endorsed.

#### MANAGERIAL IMPLICATIONS

Online game companies should select suitable game spokespersons. Attraction and reliability of online game spokespersons significantly influence advertising. It means that when adolescents receive advertising information, they value the spokesperson's high reputation and personal attraction and they believe that spokesperson's expertise can indicate reliable product information to adolescents. It is suggested that when online game companies search for game endorsers,

they should consider spokesperson's attraction, reliability and match with products in order to enhance adolescent's game purchase intention, image and effect of online games.

#### Enhancement of Adolescent's Self-judgment

After adolescent involvement, influence of online game spokespersons on game purchase intention becomes insignificant. It means that adolescent's judgment on things is still immature. Therefore, after adolescents recognize and involve in the products, the product quality will not influence their purchase intention. The research suggests cultivating adolescent's self-judgment on online games to avoid the influence of violence or pornography on adolescent's lives and future.

#### LIMITATIONS

For questionnaire subjects, this study adopts convenience sampling and demographic variables are not in equal distribution. Future studies can use stratified sampling technique or according to different nationalities. Secondly, this study invited adolescents to fill in the questionnaires, and the respondents might be influenced by environment, emotion, attitude, cognition or external factors. Future studies can probe into adolescent's purchase behavior in detail in order to recognize the related behavior, and enhance online game companies, game development and advertising effect.

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## Appendix-I

Constructs		Items	Factor loading	Accumulated explained variance	Cronbach's $\alpha$
Online game endorsement	Attraction	Online game spokesperson is suitable for recommending online game products.	0.95	41.99%	0.68
		Online game spokesperson can demonstrate the image of online game.	0.87		
		Spokesperson of online game advertising is attractive to me.	0.86		
		The online game should have well-known celebrities as spokespersons.	0.69		
	Reliability	Advertising spokesperson of online game enhances the impression of online game on me.	0.97	82.87%	0.73
		Spokespersons selected in online game advertising are not important for me.	0.95		
Online game spokesperson is reliable.		0.95			
Game purchase intention	Internal preference	I have the intention to purchase the products recommended by online game spokespersons.	0.90	37.13%	0.85
		Among the products with the same prices, I will purchase the products endorsed by online game spokespersons.	0.82		
		With sufficient money, I will have the intention to purchase products endorsed by online game spokespersons.	0.74		
		I am willing to try the products endorsed by online game spokespersons.	0.73		
		I am searching for products endorsed by online game spokespersons.	0.70		
	External stimulus	With the relatives' and friends' recommendation, I will have the intention to purchase products endorsed by online game spokespersons.	0.92	71.66%	0.91
		After watching online game spokespersons' advertising, online games will be the products I purchase.	0.92		
		If my friends want to buy online games, I will recommend the products endorsed by online game spokespersons.	0.82		
		Online game spokespersons' advertising enhances my intention to purchase online games.	0.81		
		After watching online game spokespersons advertising, I will recommend the online game.	0.72		
Adolescent involvement	I concern about the content of online game advertising.	0.89	61.89%	0.84	
	I spend time thinking about online game advertising.	0.81			
	I am concentrated when watching online game advertising.	0.78			
	Online game advertising draws my attention to online game.	0.73			
	Online game advertising draws my attention.	0.69			

Table 1: Factor Analysis of Constructs