

## **Stimulus on Online Impulse Purchase from Consumers' Affect Perspective**

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### **Abstract**

The purpose of this study is to investigate the casual relationship among stimulus, organism and impulse purchase in online sporting goods store. Amongst, we employ positive affect and impulsiveness as the mediating variables, and investigate that stimulus is a useful tool to enhance impulse purchase. Four hundred and fifty valid samples in accordance with the proportion of demographic statistics offered by the Market Intelligence and Consulting Institute (MIC) are collected in our study. Empirical results show that sales promotion is the most effective stimulus to stimulate impulse purchase and endorsement has also a positive

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causal relationship on impulse purchase.

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**Keywords:** Endorsement, sales promotion, website quality, positive affect, impulse purchase

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## 1. INTRODUCTION

Based on the prediction of Morgan Stanley analysts, the world's largest sports brand Nike Inc., will continue to outperform in the near future. The analysts cite the worldwide trend toward healthy living as one of the main reasons for growing performance of Nike in the upcoming future (Verhagen and Dolen, 2011). As the result, the demand for sporting goods is keeping growth. And, as the popularity of the internet and cell phones provides high accessibility to consumers, the transaction channels of sporting goods have expanded, consumers can purchase sporting goods not only from brick-and-mortar stores but also from on-line stores.

Impulse purchase is defined as a purchase that is unplanned, the result of an exposure to a stimulus, and decided on the spot (Piron, 1991). According to Dholakia (2000), impulse purchase is an instant urge that shoppers make buying decisions without planned and careful consideration. Impulse purchase is a critical issue in online shopping, a survey shows that approximately 40% of all money spent on e-commerce is from impulse buying (Verhagen and Dolen, 2011), almost 90% of consumers have the experience of making purchase impulsively (Hausman, 2000). Lee and Kacen (2008) investigates that cultural influences on consumer satisfaction with impulse purchase and planned purchase decisions. Shukla and Banerjee (2014) recently analyzes the direct and interactive effects of store-level promotions on impulse purchase.

Furthermore, online shoppers are found to be more impulsive than offline shoppers (Donthu and Garcia, 1999). The importance of impulse purchase in online transaction is obvious, and Liu *et al.* (2013) finds that the antecedents of consumer online impulse purchase. The online retailers can investigate how to evoke consumers' impulse purchase through appropriate stimulus. Online retailers would pay more attentions to impulse purchase, and en-

hance customers to make impulse purchase more frequently in order to improve sales performance. Thus, how to enhance customers buy impulsively on line, which stimulus should be employed, and if the employed stimulus effective, become the issue the online retailers need to consider.

Many online retailers attempt to increase the volume of impulse purchase. They seek to determine how the consumers' mind states to influence impulse purchase. Literature indicated that consumers' emotions and feelings play a critical role in customers purchase behavior, triggered by finding the product or exposure to a well-crafted promotional message (Gardner and Rook, 1988). Recognizing how the positive emotion enhances impulse purchase, online retailers can employ appropriate stimuli to enhance consumers' positive affect, which lead to impulse purchase behavior (Kim, 2008). Rather than impulsiveness, positive affect has proposed to have an obvious effect on impulse purchase as consumer's positive moods are closely related with the urge to purchase impulsively (Lee *et al.*, 2010). Thus, the casual relationship between positive affect and impulse purchase is investigated in our study.

Amongst, positive affect and impulsiveness are employed as reasonable mediating variables for impulse purchase. Impulsiveness trait is defined as the extent to which one is likely to make unplanned, instantaneous, and unreflective purchases (Lin and Lin, 2005). Impulsiveness is associating with self-regulatory failure in a shopping context, which can lead to frequent impulse buying (Sharma *et al.*, 2010; Peck and Childers, 2006; Puri, 1996). Positive affect means good moods with feelings of amusement, delight, enthusiasm, joy, happiness, and pleasure, which are positively associated with the excitement in the shopping environment (Heilman *et al.*, 2002). Under some circumstance, negative affect is employed as a mediating variable in determine impulse purchase. Youn and Faber (2000) proposes that impulse purchasing can result from an attempt to relieve depression or to cheer oneself up. However, compared to positive affect, the effect of negative mood seems implicit (Clark and Isen, 1982), and a person would experience positive affect more often than negative affect (Carver and Scheier, 1990). Based on the studies listed above, positive affect seems to have stronger relationship with impulse purchase than negative affect, thus negative affect is not considered in our study.

One of the most direct ways to evoke customers buying impulsively is adopting stimulus. Stimulus can lead customers to certain mind's state or emotional state, which can weaken the self-control system of customers. In our study, we employ three types of stimuli, which are endorsement, sales promotion and website quality.

Endorsement is the activities which retailers employed an endorser to stand for a brand or a product (Tellis, 1998). Endorsement usually adopts good-looking, attractive and appealing people as endorsers (Wei and Wu, 2013). A survey of Malaysia indicates that endorsement is a powerful marketing tool that affects consumer making purchase decision. Approximately 56% of Malaysians are willing to spend money on their favorite celebrities, and 30% would buy the products they endorsed. Hence, we believe that endorsement is a factor that will enhance consumers making impulse purchase. But there are no studies have discussed about the casual relationship between endorsement and impulse purchase. Thus, the casual relationship between endorsement and impulse purchase is investigated in our study.

Sales promotion is one of the most effective stimuli. Based on Shankar and Bolton (2004), sales promotion indicates retailers employing promotional strategy, such as discounted selling or frees gifts to stimulate the shopping desire of the shoppers. In general, price promotion can discourage deliberation since customers are essential sensitive to price, and easy to be encouraged as price volatility (Bless and Schwarz, 1999). Sales promotion has been proved that is the most common employed marketing tool in online transaction, since it is the most direct method to attract consumers and activate their shopping intention.

Website quality refers to the quality level of environmental cues that a website provides Liu *et al.* (2000) indicates that a well-designed website comprises several key design factors, that represents information quality, service quality, playfulness, system design quality and system use, which consists of the core of website quality. The importance of website quality in online store is similar to those of store image in physical store which play a critical role in consumer decision-making process (Nevin and Houston, 1980). Thus, website quality is a critical factor that can lead consumers to buy impulsively during a shopping intension (Adelaar *et al.*, 2003).

Another stimuli can influence impulse purchase is refunding system. A fine refunding system of online stores can yield consumers feel security on their purchases, which will de-

finitely increase the percentage of impulse purchase. However, refunding system can be deemed as one of the characteristic of website quality, it is a rather minor issue compare to website quality, so we do not consider refunding system in our study.

In short, the purpose of the study is to investigate the casual relationship among stimulus, organism and impulse purchase in online sporting goods store.

## **2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

The research framework of our study is derived from Liu *et al.* (2013), which is based on the stimulus-organism-response (S-O-R) model. The S-O-R model is introduced by Mehrabian, and Russell (1974), which is an extension and improvement of the classical stimulus-response (S-R) theory in behaviorism. The classical S-R theory refers to human behavior as a learned response to stimuli. The S-O-R model enhances the classical S-R theory by integrating ‘organism’ to account for internal cognitive and affective processes of people in response to external stimulus.

Our study employs the concept of classical conditioning (Russell, 1998) by choosing endorsement as one of the critical instrument variables. The idea of classical conditioning is that endorsement or advertisement enhances the formation of psychological linkage between products and endorsers, and purchasing these products can transfer the linkage between endorser and product to endorser and consumer.

The core idea of our study is the stimulus can motivate customers making impulse purchase by inspiring positive affect and impulsiveness. Endorsement, sales promotion and website quality are three stimuli that engage in our study. Previous literature finds that positive affect positively influence the consumers’ purchasing behavior (Lin and Lin, 2013). Other researchers have investigated the effectiveness of consumers’ impulsiveness to online impulse purchase intention (Zhang *et al.*, 2006). Thus, the impulse purchase model of our study is established, employing positive affect and impulsiveness as the mediating variables, which are concluded as organism. And impulse purchase is the response of our model. The propose research framework is illustrated in Figure 1. (“Figure 1” is here)

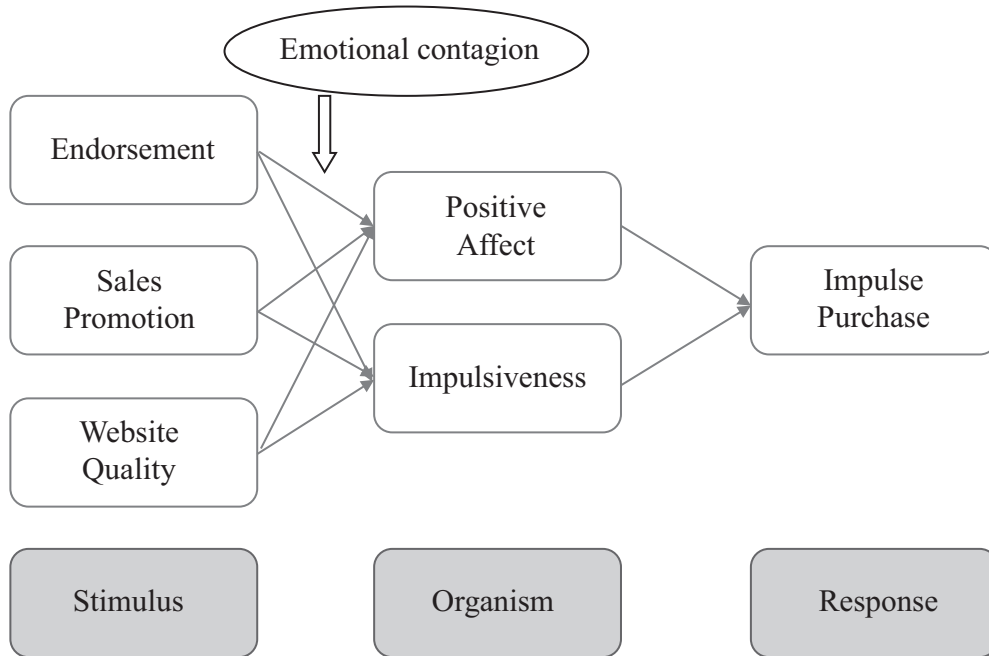


Figure1 Research Framework in Our Study

## 2.1 Relationship between Endorsement, Positive Affect and Impulsiveness

Endorsement usually employs good-looking, attractive and appealing people as endorsers (Tellis, 1998). An endorser is an individual who employed by retailers to stand for a brand or a product. Many consumers are willing to spend money on the products and services their favorite celebrities endorsed (Wei and Wu, 2013). This indicates that endorser is a persuasive tool to promote consumers purchasing behavior. The positive affect reflects the extent to which a person feels enthusiastic, active, and alert (Watson *et al.*, 1988). The impulsiveness can be defined as the extent to which one is likely to make unplanned, instantaneous, and unreflective purchases.

Compare to non-celebrity endorser, celebrity endorsers let advertising more effective, trusted, and persuasive. The reason for the difference in the effectiveness can neither be explained by increased attractiveness of the celebrity nor by a higher level of perceived expertise, but only by the persuasiveness of fame itself (Stallen *et al.*, 2010).

Famous endorser can effect customers' perception to the brand or product they endorsed. For example, former NBA superstar Michael Jordan is a famous NBA basketball player, and has many fans around the world. His great successful in basketball career, brought him high reputation, which directly reflected in the brand he endorsed, Nike Air Jordan Brand. In US market, 58% of the sold out basketball shoes is Jordan Brand, which makes its parent brand Nike became the most dominance sport brand in the market.

According to the social identity theory, sport fans believe that they can not only gain the feeling of personal achievement, but also increase their self esteem through the achievement of their favorite teams or favorite sport star, which is known as vicarious achievement motive. Sport fans are tended to preserve a positive self-concept through collecting the sporting goods their favorite sport stars endorsed, which will enhance the positive affect of sports fans.

On the other hand, endorsers can also activate customers' impulsiveness of purchasing. Fans are very irrational, most of them are willing to invest plenty of time, effort and money to follow the celebrity they admire. Their obsessions to the celebrity, pushing them to collect the merchandise connect with the celebrity impulsively, including the product the celebrity endorsed. Therefore, it is hypothesized that:

H1a: Endorsement has positive effect on positive affect.

H1b: Endorsement has positive effect on impulsiveness.

## **2.2 Relationship between Sales Promotion, Positive Affect and Impulsiveness**

Sales promotion refers to any incentives employed by retailers to provoke consumers to purchase products and to encourage the sales force to aggressively sell them (Shimp and Andrews, 2013). Referring to Blattberg and Neslin (1990), sales promotions can provide perceptions of monetary saving by lowering the price, offering product for free, or providing refunds or rebates on subsequent purchase of the same or other products. Both the size of the price reduction and the deviation from a reference price will create perceptions of monetary saving and will reduce the pain of paying.

Sales promotions enhance the positive shopping behavior and attitude of consumers,

which inspire consumers recognize that it is a satisfactory bargain (Nagar, 2009). Monetary saving benefit of sales promotion let consumers feel that they can spend less money to obtain higher quality product, which raises the perceived value of product and have the opportunity to stimulate consumers' impulsiveness to purchase. Thus, it is hypothesized that:

H2a: Sales promotion has positive effect on positive affect.

H2b: Sales promotion has positive effect on impulsiveness.

### **2.3 Relationship between Website Quality, Positive Affect and Impulsiveness**

Websites play a significant role in online transaction. It complements direct selling activities, provide supplemental material and basic company information to customers, and project a corporate image (Berthon *et al.*, 1996). Liu *et al.*, 2000 purposed that a well designed website would lead to better customer recall and recognition and a favorable attitude toward the site and its products.

Visual appeal relates to the choice of fonts and other visual elements, such as graphics, acts to enhance the overall look of a website (Van der Heijden, 2003). A good website should have the characteristic of eye-catching in appearance. It should catch consumers' eyeballs at the first sight, and keep consumers to stay at the site longer, and encourage them to browse.

Perceived playfulness is defined as consumers fall into a playfulness context during their interaction with website, and their attention will be focus on interaction (Moon and Kim, 2001). Davis *et al.*, 1992 defines playfulness as the extent to which an individual believes that the activity of using a product or service is perceived as enjoyable in its own right, apart from any performance consequence that may be anticipated. The playfulness of the website can attract consumer to interact with the website, in the process of interacting, consumers feel enjoyment from it.

Perceived ease of use is defined as the degree to which a person believes that using a particular system would be free of effort (Davis, 1989). For elder people, the main barrier for them to purchase online is the lack of computer operating skill. If a website can be easily search, browse, order and pay, the barrier for them will decrease a lot, which will increase



their online purchase intention, and may also increase their impulsiveness to do impulse purchase. Therefore, it is hypothesized that:

H3a: Website quality has positive effect on positive affect.

H3b: Website quality has positive effect on impulsiveness.

## **2.4 Relationship between Positive Affect and Impulse Purchase**

Positive affect reflects the extent to which a person feels enthusiastic, active, and alert (Watson *et al.*, 1988). Impulse purchase can be defined as “a sudden and immediate purchase with no pre-shopping intentions either to buy the specific category or to fulfill a specific buying task. Heilman *et al.*, 2002 suggests that consumers in a good mood are more likely to have better impression to the goods that presented to them. Previous research suggested that positive affect may negatively influence self-regulation due to mood maintenance, difficulties in thorough information processing, and reductions in goal-directed behavior (Aspinwall, 1998). As positive affect can result in lack of self-regulation to consumers, consumers in this status usually feel enthusiastic, excited and interested, which will lead customer to accelerate in decision-making, and there is a high opportunity to result in impulse purchase (Kacen *et al.*, 2012).

Consumers experience positive affect resulted from the spontaneous activation of their hedonic goals, which in turn produces impulsive desires and impulsive purchase (Ramathan and Menon, 2006). The behavior occurs after experiencing an urge to buy and it tends to be spontaneous and without a lot of reflection (Beatty and Ferrell, 1998). Furthermore, Lee and Yi (2008) argues that positive affects increase impulsive purchases directly or indirectly through inducing more impulsive urges. Thus, it is hypothesized that:

H4: Positive affect is positively influence impulse purchase.

## **2.5 Relationship between Impulsiveness and Impulse Purchase**

Beatty and Ferrell (1998) argues that impulsiveness is the tendency to experience sudden urges to make on-the-spot purchases and the tendency to act on these felt urges with very little deliberation or evaluation of consequence. Consumer impulsiveness is a relatively sta-

ble consumer trait, which associated with self-regulatory failure in a shopping context.

Research indicates that consumers with high impulsiveness are more difficult to control their impulsive urges and are more likely to fail in their attempts to maintain self-regulation (Sharma *et al.*, 2010). Self-regulatory failure may cause the inability to consider clearly or plan carefully. Inability to think clearly occurs when the costs of impulsive behaviors are less accessible or predictable compared to their benefits (Puri, 1996). Under this circumstance, consumers may magnify the positive side of purchase and ignore the costs, in this cases consumers have high tendency to make impulse purchase. Thus, it is hypothesized that:

H5: Impulsiveness has positive effect on impulse purchase.

## **2.6 The Moderate effect of emotional contagion**

Emotional contagion is the transferring of emotion from one individual to another. Emotional contagion is generally defined as an outflow of emotions transmitted by facial expressions, voice, posture, movements and other instrumental behaviors from one person to another (Hatfield *et al.*, 1994). According to Cohen and Lancaster (2014), this tendency to experience or express another person's mood or emotions is known as emotional contagion.

In a persuasion situation, emotion-eliciting stimuli can be connected to a product or brand in order to transfer consumers' emotions associated with that source to the target of persuasion (Pham *et al.*, 2013). And, affect-as-information theory suggests that emotions usually declaim their original source and that emotional contagion will play a positive role of affective transfers to impulse purchase (Hasford *et al.*, 2015). Consumers with high emotional susceptibility tend to easy to interpret and reach the emotional state that online retailers expect customer to achieve, and easily effect on the stimulus cues of online stores, which enhance the possibility of trigger consumers' positive affect.

The effect of stimulus is to stimulate consumers' interior feelings or emotions to make purchase decision. The degree of the effect of stimulus is different among consumers. As consumer's emotion contagion becomes larger, he will feel more exciting when he imitate

the marketing speech of marketers. Then consumer produces more impulse purchase for product attitude. Thus, it is hypothesized that:

H6: Emotional contagion moderates the relationship between the stimulus and the organism.

### **3. RESEARCH METHOD**

#### **3.1 Measurements and Scale**

To measure each variable, we employ several dimensions from previous studies: the endorsement consists of attractiveness, trustworthiness and expertise (Wei and Wu, 2013). Sales promotion consists of savings, quality and value expression (Chandon *et al.*, 2000). Website quality consists of security, convenience and delight (Kim *et al.*, 2002). For the organism, positive affect consists of emotion-focus and self-focus (Yang and Guo, 2014). Impulsiveness consists of self-indulgence, lack of self-control and imprudence (Sharma *et al.*, 2014). For the response, impulse purchase consists of reminder impulse purchase, suggestion impulse purchase and planned impulse purchase (Polites and Karahanna, 2012; Stern, 1962). As to the items of emotional contagion, Verbeke's (1997) measurements are employed in our study.

Questionnaire items are measured using a six-point Likert scale. The range is from 1 to 6 which represent "strongly disagree" to "strongly agree". We execute a pretest before conducting the formal test to ensure the wording of questionnaire items is reasonable. Note that our study aims to investigate online customers' impulse purchase behavior, so that most of the samples for our study are collected through web survey. The study model is tested with data from online users with online shopping experience. To make the sample more precise, in the beginning of the questionnaire, there will be a question asking respondents, whether they have the experience of purchasing sporting goods online, if the answer is no, that questionnaire will be attributed to invalid questionnaire.

### 3.2 Survey Method and Questionnaire Design

Our study adopts quota sampling as the sampling method. The research model is tested with data from online users with online shopping experience. We use a web-based questionnaire for two reasons. First, as our study aims to understand online consumers' purchase behavior on boutique items, rather than consumers' behavior in physical stores, online questionnaire may be more representative. Second, online shoppers are supposed to have the habit of using the internet; therefore, web survey can gather more reliable information about consumers' online consumption behavior.

Survey for using broadband Internet in Taiwan shows that the total population of using Internet in Taiwan was about 17.63 million people, which is 80% of total Taiwan population (Taiwan Network Information Center, TWNIC, 2014). Other survey shows that 60.7% of population using Internet have the experience of online shopping (The National Development Council, NDC, 2014). According to research from MOEA, ROC (2014), the amount of Taiwan's B2C transactions in 2014 is growing from NT\$ 4,511 million (2013) to NT\$ 5,291 million, the amount is grown by 17.29% compared with the year 2013. The amount of e-commerce transactions has the tendency of growing steadily.

To make the sample more precise, in the beginning of the questionnaire, there will be a question asking respondents, whether they have the experience of purchasing sporting goods online, if the answer is 'no', that questionnaire will be considered as invalid questionnaire. Please also note that the regular sporting goods in the online shop in Taiwan (e.g., basketball, baseball, football and jogging) are mentioned in our questionnaire.

We then determine the ratio of the population that engages in online shopping by gender, age, and region from a survey of Taiwan's online consumers performed by the Market Intelligence and Consulting Institute (MIC) of Minister of Economic Affairs (MOEA) in 2014. Four hundred and fifty valid questionnaires are collected as the sample. In online shopping context, male occupies 44.6%, female occupies 55.4%. According questionnaire ratio of age, we divided our samples into three different age groups, under the age of 24 years-old, 25-49 years-old, and above 50 years-old. And under the age of 24 years-old occupies 21%, 25-49 years-old occupies 72.8%, and above 50 years-old occupies 6.3%. According

questionnaire ratio of region, we divide our samples into five different regions, respectively east, central, north, south, and island. And online consumers in northern region of Taiwan occupies 59.8%, central region occupies 17.7%, southern region occupies 20.0%, eastern region of Taiwan occupies 2.2%, and island district occupies 0.3%. Please see Table 1.

In this study, 490 questionnaires are delivered to the sampling and 450 valid questionnaires obtained. The effective rate is 92% (450/490). It is to say that we follow the population rate to draw 490 surveys and 450 valid questionnaires had been analyzed as the sample. Please see Table 2.

Please note that we employ 6-scale Likert measure in order to obtain the required opinion of the respondent. Given that we do not want to expect the central tendency or inertial tendency, for example, to express general agree or common satisfaction opinion in the response (Emmenegger *et al.*, 2015; Netland *et al.*, 2015; Guerber *et al.*, 2014). However, it may pay a trade-off effect while respondent does not own a specific opinion and it will arouse another bias in duly course.

Table 1 Ratio of Population with Online Shopping's Gender, Age and Region

Measure	Items	Population	Percentage
Gender	Male	4,772,829	44.6
	Female	5,928,581	55.4
Age	Under 24 yaers old	2,247,296	21
	25-49 years old	7,790,626	72.8
	Over 50 years old	674,189	6.3
Region	North	6,399,443	59.8
	Central	1,894,150	17.7
	Sourth	2,140,282	20.0
	East	235,431	2.2
	Islands District	32,104	0.3

Data Source: Market Intelligence & Consulting Institute (MIC, 2014).

Table2 Sampling Structure

Item	Under 24 year-old		25-49 years old		Over 50 years old		Sub-total		Total
	Male	Female	Male	Female	Male	Female	Male	Female	
North	28	34	95	118	8	10	131	162	293
Central	8	10	28	35	3	3	39	48	87
South	9	11	32	39	3	4	44	54	98
East	1	2	4	5	0	0	5	7	12
Sub- total	46	57	159	197	14	17	219	271	490
Total	103		356		28		490		490

## 4. EMPIRICAL RESULTS

The data are analyzed using the Statistical Package for Social Science (SPSS 14.0). We send out 495 questionnaires and 495 are returned. The return ratio of questionnaires is 100%. The questionnaire is answered by 495 respondents, among them, there are 450 valid and 45 invalid questionnaires. The effective rate is 90.9%. The gender ratio of the respondents is female 55.6% (n=250) to male 44.4% (n=200). The majority of the respondents are between the ages of 24-49, with 72.7% (n = 327), and 21.1% under 24 years-old (n = 95). For the respondents' region, northern region is the most concentrated, 60% (n=270) of respondents are from northern region. In addition, the respondents are generally highly educated, only 6.2% of respondents are under senior high school.

### 4.1 Reliability and Validity Analysis

The quality of measurement efforts through assessing reliability, convergent validity, discriminate validity and construct validity are determined. We examine reliability for all items in a construct by computing composite reliability (CR). All composite reliability values in our study are larger than 0.50, indicating an acceptable fit to data (Fornell and Larcker, 1981). Empirical result shows that it has good reliability. The composite reliabilities are

shown as follows: endorsement, 0.853; sales promotion, 0.853; website quality, 0.835; positive affective, 0.876; impulsiveness, 0.886; and impulse purchase, 0.770.

Construct validity is examined by investigating the evidence associated with each construct, including proper items with loading of minimum 0.4 upon their respective hypothesized components in confirmatory factor analysis (CFA)(Anderson and Gerbing, 1988). The loadings on hypothesized factors are significant (all factor loadings exceeding 0.5). The assessment of convergent validity is supported by CFA model. All loadings in Table 1 are obvious significant ( $p < 0.05$ ). Thus, convergent validity still holds. In addition, our study calculates average variance extracted (AVE) to examine discriminate validity (Fornell and Larcker, 1981). As AVE value is larger than square phi-correlation, our questionnaire enjoys a high discriminate validity (Burton *et al.*, 1998; Batra and Sinha, 2000). AVE values are as follows: endorsement, 0.661; sales promotion, 0.659; website quality, 0.638; positive affective, 0.779; impulsiveness, 0.721; and impulse purchase, 0.531. The AVE values for each variable indicate that our study owns discriminate validity (Table 3).

## 4.2 Hypothesis Testing

Our study model obtains the following fit statistics: goodness-of-fit index (GFI), 0.920; and, adjusted goodness-of-fit index (AGFI), 0.885; comparative fit index (CFI), 0.952; normed fit index (NFI), 0.932; non-normed fit index (NNFI), 0.921. Although goodness-of-fit is not perfect, at 0.9 it is still within the acceptable range (Jöreskog and Sörbom, 1986). Root mean square residual (RMSR) is 0.098; Root mean square error of approximation (RMSEA) is 0.070 and  $\chi^2/df = 3.221$ , representing that our hypothesized model fits data reasonably sound.

Table 3 Results of Reliability and Validity Analysis

Variables	Constructs	Cronbach's $\alpha$	Cronbach's $\alpha$ if construct deleted	Loading	Composite Reliability (CR)	Average Variance Extracted (AVE)
Endorsement		.841			.853	.661
	Attractiveness		.862	.684		
	Trustworthiness		.729	.871		
	Expertise		.749	.870		
Sales Promotion		.853			.853	.659
	Savings		.788	.790		
	Quality		.822	.775		
	Value Expression		.774	.868		
Website Quality		.813			.853	.659
	Security		.788	.790		
	Convenience		.822	.775		
	Delight		.774	.868		
Positive Affective		.872			.876	.779
	Emotion-Focus		.	.921		
	Self-Focus		.	.843		
Impulsiveness		.873				
	Self Indulgence		.829	.821	.886	.721
	Lack of Self-Control		.791	.877		
	Imprudence		.851	.848		
Impulse Purchase		.700			.770	.531
	Reminder Impulse Purchase		.612	.615		
	Suggestion Impulse Purchase		.588	.750		
	Planned Impulse Purchase					
				.654	.807	

The hypotheses testing result of our study model in Table 2 demonstrating that most relationships among latent constructs significantly support the hypotheses, thus obtains



useful evidence for our study framework and supporting mono-logical construct validity. We can find endorsement has positively effect on both positive affect ( $H_{1a}$ :  $\beta_1 = 0.129$ , t-value = 4.353) and impulsiveness ( $H_{1b}$ :  $\beta_2 = 0.271$ , t-value = 4.077). Sales promotion has positively effect on both positive affect ( $H_{2a}$ :  $\beta_3 = 0.367$ , t-value = 9.436) and impulsiveness ( $H_{2b}$ :  $\beta_4 = 0.447$ , t-value = 5.132). Website quality has positively effect on both positive affect ( $H_{3a}$ :  $\beta_5 = 0.204$ , t-value = 6.763) and impulsiveness ( $H_{3b}$ :  $\beta_6 = 0.055$ , t-value = 0.811). Positive affect has positively effect on impulse purchase ( $H_4$ :  $\beta_7 = 0.374$ , t-value = 7.129). Impulsiveness has positively effect on impulse purchase ( $H_5$ :  $\beta_8 = 0.534$ , t-value = 17.887). The overall path and its coefficients are displayed at Table 4.

There is only one insignificant hypothesis in our study, which is the hypothesis of website quality is positively influence on impulsiveness. Practically speaking, when consumers browsing an online store, the good website quality will allow consumers visit the online store with a positive mood, which could extend the browsing time, and increase the opportunity of impulse purchase in the online store. However, good website quality is rather hard to provoke the impulsiveness inside consumers to purchase impulsively.

We further examine the effect of moderator variable by separating our questionnaires into two groups, one group with higher emotional contagion, and the other group with lower emotional contagion. We use “emotional contagion” as the divide variable and separate into two groups (“above the average emotion contagion level” and “below the average emotion contagion level”). As to the number of respondents in each group are 212 (high group) and 238 (low group), respectively. Through comparing the  $\chi^2$  of this two group are 418.47 and 531.80, respectively and the difference is 113.33 which is larger than  $\chi^2_{(28)(0.05)} (=41.337)$ . Thus, we can conclude that there is a significant difference between different emotional contagion groups and the moderating effect ( $H_6$ ) is hold.

Table 4 Results of Fit Indices and Research Hypothesis

Indicator	Standard of estimation	The value of our study
$\chi^2/df$	>2 and < 5	3.221
Goodness of fit index (GFI)	>0.9	0.920
Adjusted goodness of fit index (AGFI)	>0.8	0.885
Comparative fit index (CFI)	>0.9	0.952
Normed fit index (NFI)	>0.9	0.932
Non Normed fit index (NNFI)	>0.9	0.921
Root mean square residual (RMSR)	<1	0.098
Root mean square error of approximation (RMSEA)	<0.08	0.070

Hypothesized Path	$\beta$	t-value	Test
H1a Endorsement→Positive Affect	0.197	4.213	Support
H1b Endorsement→Impulsiveness	0.184	3.094	Support
H2a Sales Promotion→Positive Affect	0.494	8.005	Support
H2b Sales Promotion→Impulsiveness	0.396	5.127	Support
H3a Website Quality→Positive Affect	0.236	3.942	Support
H3b Website Quality→Impulsiveness	0.013	0.177	Not Support
H4 Positive Affect→Impulse Purchase	0.344	7.441	Support
H5 Impulsiveness→Impulse Purchase	0.695	11.074	Support

### 4.3 Rival Model Analysis

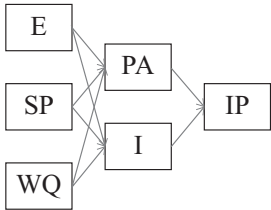
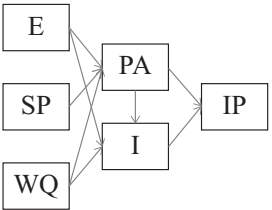
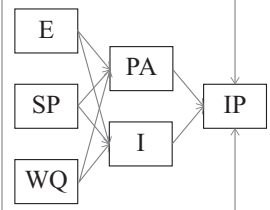
Bagozzi and Yi (1988) argues the necessity for a rival model. Sharma (1996) proposes that employs the difference of  $\chi^2$  value to compare and examines the valid of rival model. Bollen and Long (1993) employs the value of GFI, AGFI, CFI, RMSR, RMSEA and related indices of path coefficient to analyze.

Table 3 shows that rival models analysis. Rival model 1 specifies the direct influence effects from positive affect to impulsiveness which is based on the work of Smith and Cyders (2016) and Hwang *et al.* (2012) And rival model 2 is to see if the causality from three types of stimulus to impulse purchase which is originated from the comprehensive school framework (Chang and Tseng, 2013; Park *et al.*, 2006). Thus, our original model can be deemed as the interactive school framework.

Compared to original model, the significant ratio of the original model (88%, seven of

eight path is significant) is greater than rival model 1 (67%) and rival model 2 (46%). The direct effect from stimulus to impulse purchase is not effective than the indirect effect with mediators positive affection and impulsiveness in study model. Based on the above comparison, we can conclude that the study model is better than two rival models (Table 5).

Table5 Rival Models Comparison

Measurement Indices	Study Model	Rival Model 1	Rival Model 2																																																								
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Significant Ratio	88%	67%	46%																																																								
	<table border="1"> <tr><td>E→PA</td><td><b>Non-Reject</b></td></tr> <tr><td>E→I</td><td><b>Non-Reject</b></td></tr> <tr><td>SP→PA</td><td><b>Non-Reject</b></td></tr> <tr><td>SP→I</td><td><b>Non-Reject</b></td></tr> <tr><td>WQ→PA</td><td><b>Non-Reject</b></td></tr> <tr><td>WQ→I</td><td>Reject</td></tr> <tr><td>PA→IP</td><td><b>Non-Reject</b></td></tr> <tr><td>I→IP</td><td><b>Non-Reject</b></td></tr> </table>	E→PA	<b>Non-Reject</b>	E→I	<b>Non-Reject</b>	SP→PA	<b>Non-Reject</b>	SP→I	<b>Non-Reject</b>	WQ→PA	<b>Non-Reject</b>	WQ→I	Reject	PA→IP	<b>Non-Reject</b>	I→IP	<b>Non-Reject</b>	<table border="1"> <tr><td>E→PA</td><td><b>Non-Reject</b></td></tr> <tr><td>E→I</td><td>Reject</td></tr> <tr><td>SP→PA</td><td><b>Non-Reject</b></td></tr> <tr><td>SP→I</td><td><b>Non-Reject</b></td></tr> <tr><td>WQ→PA</td><td><b>Non-Reject</b></td></tr> <tr><td>WQ→I</td><td>Reject</td></tr> <tr><td>PA→I</td><td>Reject</td></tr> <tr><td>PA→IP</td><td><b>Non-Reject</b></td></tr> <tr><td>I→IP</td><td><b>Non-Reject</b></td></tr> </table>	E→PA	<b>Non-Reject</b>	E→I	Reject	SP→PA	<b>Non-Reject</b>	SP→I	<b>Non-Reject</b>	WQ→PA	<b>Non-Reject</b>	WQ→I	Reject	PA→I	Reject	PA→IP	<b>Non-Reject</b>	I→IP	<b>Non-Reject</b>	<table border="1"> <tr><td>E→PA</td><td><b>Non-Reject</b></td></tr> <tr><td>E→I</td><td>Reject</td></tr> <tr><td>SP→PA</td><td><b>Non-Reject</b></td></tr> <tr><td>SP→I</td><td><b>Non-Reject</b></td></tr> <tr><td>WQ→PA</td><td><b>Non-Reject</b></td></tr> <tr><td>WQ→I</td><td>Reject</td></tr> <tr><td>PA→IP</td><td>Reject</td></tr> <tr><td>I→IP</td><td><b>Non-Reject</b></td></tr> <tr><td>E→IP</td><td>Reject</td></tr> <tr><td>SP→IP</td><td>Reject</td></tr> <tr><td>WQ→IP</td><td>Reject</td></tr> </table>	E→PA	<b>Non-Reject</b>	E→I	Reject	SP→PA	<b>Non-Reject</b>	SP→I	<b>Non-Reject</b>	WQ→PA	<b>Non-Reject</b>	WQ→I	Reject	PA→IP	Reject	I→IP	<b>Non-Reject</b>	E→IP	Reject	SP→IP	Reject	WQ→IP	Reject
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$\chi^2/df$	3.221	3.235	3.184																																																								
GFI	0.920	0.921	0.922																																																								
AGFI	0.885	0.884	0.884																																																								
CFI	0.952	0.952	0.954																																																								
RMSR	0.070	0.071	0.070																																																								
RMSEA	0.098	0.096	0.094																																																								

## 5. CONCLUSION AND DISCUSSION

### 5.1 Conclusion

We propose a framework for the relationship among stimulus, organism and impulse purchase behavior. Most of the hypotheses in our research are significant except the hypothesis of website quality influences on impulsiveness. Our main conclusion of this research is sales promotion has a positive casual relationship on impulsiveness, and impulsiveness has a positive causal relationship on impulse purchase since sales promotion has been proved as an effective marketing tool to stimulate consumers' emotional state, and it is the most commonly used website cues by online retailers to attract consumers making impulse purchase. Our finding can provide useful information to online retailers that compare to other stimuli, sales promotion is a rather useful alternative, if online retailers expect to improve the percentage of consumers' impulse purchase. Our conclusion is similar to Liu *et al.* (2013) which asserts that the organic variables, such as positive affect and impulsiveness, are found to mediate the effects of stimulus on impulse purchase.

### 5.2 Theoretical contribution

Thus, there are three theoretical contributions in this study. First, this research proves that suitable stimulus can enhance consumers' positive affect and impulsiveness which result in impulse purchase. It provides online retailer a way to increase impulse purchase frequency. Second, positive affect and impulsiveness is found as important mediators in enhancing consumers making impulse purchase. Thirdly, this study proves that endorsement has positive effect on impulse purchase, which has never been proved in prior study. It provides a specific method for online retailer to utilize.

In detail, we indicate that endorsement has a positive causal relationship on impulse purchase with the mediation effect of impulsiveness. Kanungo and Phang (1973) suggests that endorsement accelerate consumers to make purchase decision by stimulating customers' emotional and attitudinal reactions. Endorsement has been deemed as an effective marketing tool that can influence consumers making regular purchase decision. However, in our study we have shown that endorsement has the ability to evoke consumers to make im-

pulse purchase decision, which has not been proved in the prior studies. Our finding then provides a new option for online retailers in stimulating consumers' impulse purchase intention.

This study has provided some stimuli that can stimulate consumers to purchase impulsively, which are endorsement, sales promotion and website quality. As many prior researches suggested sales promotion is an effective stimulus to catch consumers' eyes. As information searching online is getting easier and easier, and due to the money savings instincts of consumers, many consumers are tended to make comparison and searching for cheaper price before purchase, and the one with sales promotion can always attract consumers to make impulse purchase.

### **5.3 Practical contribution**

As to practical contributions, as people are started pursuing a healthy life, more and more people are participated in a variety of sports, and the demand for the sporting goods is getting larger and larger. And as the widespread use of internet and the convenience of online purchase, consumers tends to purchase online more and more frequently, assuredly, the percentage of online purchase of sporting goods is also increasing. The prior research shown that most of the income of online store are from impulse purchase (Verhagen and Dolen, 2011). Thus, online sporting goods retailers have to pay more attention on impulse purchase.

As the successful marketing of the professional sports leagues, such as NBA, MLB, NFL, sports like basketball, baseball and American Football are breaking the regional limitation and spread around the world, more and more people are getting to know these sports and involve in these sports personally. One of the reason for this phenomenon is that they are attracted by certain athlete, and fascinated by him, try to do what he does, engage in the sport he good at, if the sporting goods retailers hire this athlete as the endorser, such as Nike have sign the endorsing contracts with NBA super stars Kobe Bryant, LeBron James, etc., then the fans of this athlete are very likely to purchase the sporting goods he endorsed. And our study proves that endorsement has positive effect on positive affect and impulsiveness, and positive affect and impulsiveness has positive effect on impulse purchase, which means that endorsement is positively influence impulse purchase.

As for website quality, which it has the same effect as the store atmosphere to physical store. According to the result of our study, website quality has positive effect positive affect and positive affect is positive influence impulse purchase. However, the hypothesis of website quality is positively influence on impulsiveness is not significant. Practically speaking, when consumers browsing an online store, the good website quality will allow consumers visit the online store with a positive mood, which may extend the browsing time, and increase the opportunity of impulse purchase in this online store. However, good website quality is rather hard to provoke the impulsiveness inside consumers to purchase impulsively.

As emerge of e-commerce and m-commerce, the proportion of online purchasing is increasing with a rapid rate, and a lot of the physical stores are extruded due to the appearance of online store. As managing an online store is much cheaper and have lower barrier than physical store, so the number of online stores is growth rapidly, which result in intense competition. To survive from this competition, online retailers should figure how to expend their consumers, use these stimuli properly to increase the percentage of impulse purchase.

#### **5.4 Research limitation**

As to our research limitation, there are three points. The first is different independent variables. We only discuss the effect of three independent variables (endorsement, sales promotion and website quality) on impulse purchase. Other variables may have much effect on impulse purchase or increase the effect of intermediary variable of positive affect. The Second is sample restriction. We are restrained by the budget and time restriction, so we collect 450 questionnaires. Under the situation of enough time and money, 800 to 1000 questionnaires could effetely decrease the bias happened. Besides, our samples are drawn based on the demographic proportion offered by Market Intelligence & Consulting Institute (MIC). The third, although we select our respondents from people who have visited online shopping, we do not determine their impression of online shopping. Consequently, some respondents may have a vague impression of the online shopping, resulting in uncertain answers when they complete the questionn aires. Therefore, whether respondents have clear memories of the online shopping should be determined to improve the effectiveness of our questionnaire.

### **5.5 Future study suggestion**

For the future study, first of all, the research could be done not only from the perspective of online consumers, but also from the perspective of online retailers. By comparing the result of these two perspectives, we can get the gap between these two groups, which might be able to help online retailers adjusting their marketing strategy. Secondly, the theoretical model can be extended into other industry, not only in the online sporting store, and find out whether this model can apply on other industry with the same result come out. Finally, more stimuli that enhance impulse purchase could be discovered in future studies.

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Appendix: The Items of Survey Questionnaires in this Study

Variable	Construct	Questionnaires
Endorsement	Attractiveness	<ol style="list-style-type: none"> <li>1. I would purchase online sporting goods if the endorser is the celebrity I like.</li> <li>2. The appealing of the endorser would influence my intention to purchase sporting goods online.</li> <li>3. Classy and stylish endorser would enhance me to purchase sporting goods online.</li> </ol>
	Trustworthiness	<ol style="list-style-type: none"> <li>4. If the endorser of online sporting goods store is honest and reliable, I would like to purchase sporting goods online.</li> <li>5. If the endorser of online sporting goods store is sincere, I would like to purchase sporting goods online.</li> <li>6. If the endorser of online sporting goods store is trustworthy, I would like to purchase sporting goods online.</li> </ol>
	Expertise	<ol style="list-style-type: none"> <li>7. If the endorser is an expert, I would like to purchase sporting goods online.</li> <li>8. The experience of endorser would be a criterion for me to decide whether purchase sporting goods online or not.</li> <li>9. I would like to purchase sporting goods online which are endorsed by a skilled endorser.</li> </ol>
Sales Promotion	Savings	<ol style="list-style-type: none"> <li>1. I really save money because of sales promotion of online sporting goods store.</li> <li>2. I feel that I am getting a good deal because of sales promotion of online sporting goods store.</li> <li>3. I really spend less because of sales promotion of online sporting goods store.</li> </ol>
	Quality	<ol style="list-style-type: none"> <li>4. I can have a higher-quality product at the same price because of sales promotion of online sporting goods store.</li> <li>5. I can afford a better-than-usual product because of sales promotion sporting goods store.</li> <li>6. I can upgrade to a better brand because of sales promotion of on-line goods store.</li> </ol>

	Value Expression	<p>7. I feel good about myself while purchase on sales promotion of on-line sporting goods store.</p> <p>8. I can be proud of my purchase on sales promotion of online sporting goods store.</p> <p>9. I feel like I am a smart shopper while purchase on sales promotion of online sporting goods store.</p>
Website Quality	Security	<p>1. I trust on this online sporting good store because it protects users' personal information effectively.</p> <p>2. I trust on this online sporting good store because it manages and maintains personal account records.</p> <p>3. I trust on this online sporting good store because it provides through protection, preventing any invasion from intruders.</p>
	Convenience	<p>4. Purchasing in this online sporting goods store is convenience because it provides various assortments of goods and services.</p> <p>5. Purchasing in this online sporting goods store is convenience because the information provided is easy to understand.</p> <p>6. Purchasing in this online sporting goods store is convenience because the processes of ordering goods and services are convenient.</p> <p>7. Purchasing in this online sporting goods store is convenience because it is easy to make claims when there are problems in the delivered goods and services.</p> <p>8. Purchasing in this online sporting goods store is convenience because it is easy to make exchanges and obtain refunds for the pur-</p>
	Delight	<p>9. I like to purchase in this online sporting goods store because it is pleasant to follow the overall flow.</p> <p>10. I like to purchase in this online sporting goods store because it is easy to learn the steps to use the system.</p> <p>11. I like to purchase in this online sporting goods store because the overall atmosphere and screen displays of the sites are well coordinated.</p> <p>12. I like to purchase in this online sporting goods store because it provides fast and accurate answers to the customers' inquiries</p>
Positive Affect	Emotion-focus	<p>1. The stimulus this online sporting goods store provided make me feel happy to purchase on it.</p> <p>2. The stimulus this online sporting goods store provided make me feel up to doing everything.</p> <p>3. The stimulus this online sporting goods store provided make me feel like full of energy while purchasing on it.</p>

	Self-focus	<p>4. The stimulus this online sporting goods store provided make me savor the moment of purchasing.</p> <p>5. The stimulus this online sporting goods store provided make me feel like “I am achieving everything”.</p> <p>6. The stimulus this online sporting goods store provided make me to be proud of yourself.</p> <p>7. The stimulus this online sporting goods store provided make me feel like “I am getting everything done”</p>
Impulsiveness	Self-indulgence	<p>1. The stimulus tis online store provided make me feel like I want to live a luxury life through purchasing.</p> <p>2. Because of the stimulus this online store provided, I like to indulge myself in purchasing.</p> <p>3. The stimulus this online store provided enhance me to buy things for my own pleasure.</p>
	Lack of self-control	<p>4. Because of the stimulus this online store provided, I often browsing the website restlessly, and making purchase.</p> <p>5. Because of the stimulus this online store provided, I cannot control myself sometimes from purchasing.</p> <p>6. Because of the stimulus this online store provided, I often making purchase that I regret later.</p>
	Imprudence	<p>7. Because of the stimulus this online store provided, I am not a methodical person in purchasing.</p> <p>8. Because of the stimulus this online store provided, I often make wrong purchase decision.</p> <p>9. Because of the stimulus this online store provided, sometime I find it difficult to think clearly before purchase.</p>
Impulse Purchase	Reminder impulse purchase	<p>1. I usually purchase sporting goods online when the information online reminds me of the products that meet my need.</p> <p>2. I usually purchase sporting goods online when the commercial of product reminds me of the products that meet my need.</p> <p>3. I usually purchase sporting goods online when the detailed information of the product list online reminds me of the products that meet my need.</p>
	Suggestion impulse purchase	<p>4. I usually buy the product online when it provides discount or better offer.</p> <p>5. The sales promotion online is the main reason for me to buy the product.</p> <p>6. I am easily attracted to buying the product through the display of the function of the product online.</p>

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	Planned impulse purchase	<ol style="list-style-type: none"><li>7. I will buy the product on sale even when it is not in my shopping list.</li><li>8. The pleasure I get from online purchases increased my mental budgeting account, which makes me purchase extra products.</li><li>9. When I purchase online, I usually make extra budget to buy the product that is not in my shopping list.</li><li>10. I usually buy the product that is not in my shopping list when I surf online.</li><li>11. I will make the extra purchase when the product is on sale or the practical function of the product is shown online.</li></ol>
Emotional Contagion	Emotional Contagion	<ol style="list-style-type: none"><li>1. I pay attention to what other people are feeling.</li><li>2. When someone laughs hard, I laugh too.</li><li>3. When I am around people who are angry, I feel angry myself.</li><li>4. When someone paces back and forth, I feel nervous and anxious.</li><li>5. I'm very sensitive in picking up other people's feelings.</li></ol>



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## 從消費者情感的觀點探討刺激線上衝動性購買

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### 摘 要

隨著網路的普及，越來越多人開始在線上購物，而在線上購買運動用品的比例也在急劇上升，而線上商店的大部分收入來源，是來自衝動性購買。因此，衝動性購買對與線上的運動用品商店同樣扮演了很重要的角色。在本研究中，我們使用消費者正向情感與衝動性作為中介變數，來探討刺激物對線上衝動性購買的影響。本研究樣本是依據產業情報研究所所提供的人口統計比例抽樣，共收集了450份的有效問卷。然後利用線性結構方程式來驗證變數之間的效果以及因果關係。本研究結果指出，銷售促銷是對衝動性購買最有效的刺激物。另一項重要的發現是，代言會對衝動性購買有正向影響，這在其他研究中還沒有被證實。

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**關鍵詞：**代言，銷售促銷，網站品質，正向情感，衝動性購買。

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