

The Effects of the Attractiveness of an Internet Shopping Mall and Flow on Affective Commitment

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Abstract

With the many advantages of the internet, online shopping has become one of the fastest growing types of retail businesses. However, internet-based firms are much more firmly required to retain existing customers rather than secure new ones, and to make them revisit the site by strengthening trust and loyalty, thereby improving profits and outrivaling competitors.

Commitment is an essential part of successful long-term relationships between buyers and sellers. Although commitments by both parties in an exchange can provide the foundation for the development of relational social norms, disproportionate commitments can lead to opportunism by the less committed partner. Moreover, flow, which is characterized by intense concentration and enjoyment, was found to be significantly linked with exploratory use behavior, which in turn was linked to the extent of computer use. The level of flow was, itself, determined by the individual's sense of being in control, and the level of challenge perceived in maneuvering a website. Website attractiveness goes hand in hand with the attractiveness of an internet shopping mall, and it can be conceptualized as the persuasive effectiveness of a message by the use of familiarity, favor, similarity, etc. It occurs when information receivers try to achieve self-satisfaction when they actually or emotionally identify themselves with an information source.

This study investigates the relationship between the perceived system characteristics of an internet shopping mall and the loyalty of online consumers, and it examines how perceived website attractiveness and flow play mediating roles between the perceived system characteristics of an internet shopping mall and the affective commitment in the context of a clothes internet shopping mall. For these purposes, a structural model comprising several variables was developed. That model was tested with an analysis of moment structure (AMOS) using data from respondents who had purchased clothing through the internet during the past three months. In this model, the perceived system characteristics of an internet shopping mall, such as familiarity, reputation, uniqueness, positive emotions, self-efficacy, and interactivity, were proposed to affect the website's attractiveness

and flow, and lead to a higher affective commitment over time. Thus, the perceived website attractiveness and flow were proposed as core mediating variables between perceived system characteristics and affective commitment. The results of a reliability test using Cronbach's Alpha, and a confirmatory factor analysis warranted using unidimensionality for the measures for each construct. In addition, the nomological validity of the measures was warranted from the results of a correlation analysis.

The results of empirical analyses indicated that systematic attributes resulting in website attractiveness and user's characteristics, thereby triggering customers' flow, play a crucial role in inducing customers' affective commitment, and a user's characteristics are twice as important as systematic attributes in this study. Moreover, familiarity, reputation, and uniqueness all have a significant effect on website attractiveness, and the research showed that uniqueness took the first place, and that familiarity and reputation followed in order of magnitude. The fact that reputation was not the most important factor that affects the attractiveness of an internet shopping mall, with uniqueness or familiarity having a greater impact, suggests much deeper implications. Finally, positive emotion, self-efficacy, and interactivity all have a significant effect on customers' flow. In particular, the fact that positive emotion, compared to self-efficacy or interactivity, has much more impact on flow is very suggestive.

Keywords: commitment, attractiveness, flow

I. Introduction

As noticeable advancement of information technology changes business environment, today's business activities heavily depend on computer networks environment, and the business strategy using internet became the focus of business management. These days almost all corporations, governments, schools, and various type of organizations already have taken advantage of intranet and internet as means of computer-to-computer communication, and the number of internet users has been rapidly increased as user friendliness kept improved due to a development of World Wide Web based on graphic user interface(GUI).

High rate of internet use as a result of massive propagation of computer not only accelerated market size of internet shopping but made offline retailers capable of offering product and service to their

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customers through internet which can build communication networks worldwide. One-to-one interaction between company and customer became possible as a consequence. Internet shopping provides corporations with many advantages such as reducing purchase cost and inventory, shortening ordering cycle, collecting customer's opinion easily, and creating a new opportunity, etc. Besides, customers are able to purchase products on sale throughout the world conveniently without barriers of time and space. Because of these advantages internet offers, internet shopping becomes one of the fastest growing type of retail businesses (Levy & Weitz, 2001).

Current market of internet-based electronic commerce, however, does not seem to meet its technological and environmental expectations yet. Overall electronic commerce market is still weak in its structure, and the sales volume is still very limited comparing to off-line commerce. Actually the average percentage of sales came from electronic commerce out of the domestic companies' total sales in 2007 was 20.6%. Online corporations that steadily make a profit of more than 10 billion won per year account for only 10%(estimated at 7%) of the whole electronic commerce market. It tells that profit structure of overall electronic commerce market is so biased and the market itself is not stable. A total transaction value of domestic ecommerce in 2010 was about 824 trillion won increased 22.5% compared with the previous year, and its annual average rate of increase was 17.6% for the last five years. However, transaction value of B2C (business-to-consumer) accounted for only 1.9% of all ecommerce market in 2010, and 63.4% of total transaction value of cyber shopping except for C2C (consumer-to-consumer) in the same year (National Statistical Office, 2010). Consequently, online channel still does not seem to be settled as a stable and prevalent B2C distribution channel.

Thus, it is suggested that companies ought to retain existing customers rather than secure new ones, and increase the number of repurchase and revisit by strengthening trust and loyalty in order to outsmart their competitors and improve profits. This study empirically tested correlation of factors that influence affective commitment with website attractiveness and flow in order to suggest a way of increasing purchase intention by having customer's long-lasting attachment to internet shopping mall. And result of this study will provide implications to marketing managers who try to strengthen competitiveness of their internet shopping malls by inducing customer's affective commitment.

II. Literature Review

1. Affective Commitment

Existing studies deal with commitment in three different scopes such as personal relationship, organizational behavior, and relationship marketing. Early studies on commitment focused on personal relations (Rusbult, 1980), then applied it to organization commitment at a later time, and now recent studies mainly focusing on business-to-business

and business-to-customer relationship marketing are proceeding briskly.

Relationship commitment has been intensively studied as a salient variable of relationship marketing, and recognized as the most common mediating variable in the field of buyer-seller relationships (Morgan & Hunt, 1994). Dwyer, Schurr & Oh (1987) defined commitment as an implicit and explicit pledge of relational continuity between exchange partners, and Anderson & Weitz (1992) explained it as a long-term orientation toward the relationship. Besides, it is also defined as exchange partner believing that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it (Morgan & Hunt, 1994). Many researchers defined commitment in various ways as shown in <Table 1>.

It is also surely possible to experience commitment on web. Hoffman et al. (2000) argued that commitment occurs when evoked enjoyment and positive emotion are formed as interaction between internet users and media increases. In other words, affective commitment on web is based on affective enjoyment and psychological ties people perceived when they use internet shopping mall, and try to maintain relation with that internet site.

As described in <Table 1> researchers defined commitment differently with their own conceptual approaches, but they always pursued a long-term relationship with corporation in common. Thus, in this study, commitment is defined as 'an extent of pursuing long-term relationship with counterpart'.

<Table 1> Definitions of Commitment

researchers	definitions
Dwyer, Schurr & Oh (1987)	• an implicit and explicit pledge of relational continuity between exchange partners
Moorman, Zaltman & Deshpande (1992)	• an enduring desire to maintain a valued relationship
Anderson & Weitz (1992)	• a long-term orientation toward the relationship
Ganesan (1994)	• a desire to develop a stable relationship, a confidence in the stability of the relationship, a willingness to make short-term sacrifices to maintain the relationship
Morgan & Hunt (1994)	• exchange partner believing that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it
Gundlach, Achrol & Mentzer (1995)	• a willingness to make short-term sacrifices to realize longer-term benefits • motivation and involvement, positive effect and loyalty, performance and obedience to organizational policies • It provides a foundation for the development of social norms of governance, which are considered important mechanism for regulating long-term relational exchanges and reducing opportunism.
Garbarino & Johnson (1999)	• customer's psychological attachment, loyalty, concern for future welfare, identification, and pride in being associated with the organization

2. Website Attractiveness

Existing studies on consumer's store selecting behavior demonstrated that consumer selects it depending on store's attractiveness. Website attractiveness mostly refers to that of internet shopping mall, and it results from persuasion effect generated by familiarity, goodwill, or similarity that user feels from site (Backer & Churchill, 1977). It occurs when receivers try to achieve self-satisfaction while they actually or emotionally identify themselves with information source, and receivers are driven by message source that they feel similar or familiar with it. And it refers to the extent of response to it in order to be identified with or related to it (Rossiter & Percy, 1980).

In a way, website attractiveness can be considered as a natural power of attracting people without employing any type of artificial coercion. Generally, an attractive website generates an attention and involvement, and attractiveness can be defined as a quality of physical set-up by which customers feel attraction. Moreover, attractiveness which consists of two major dimensions such as interactivity and vividness increases the level of relations between customer and website.

Website could attract visitor's attention and interest by manifoldly using visual elements such as window layout, color, icon, text change, image conversion, window and panel, animation, etc (Lee, H. B. 2001). Suh & Kim (2003) mentioned that aesthetic attractiveness of internet site is related with such aspects as refinement, beauty, and design. And he also argued that applying a consistent design is important in order to arouse curiosity and interest. Besides, Lin & Lu (2000) asserted that well-designed internet site is needed to interact effectively with potential customers.

Store loyalty is defined as consumer's tendency of repeated purchasing at specific store from behavioral approach perspective, and store preference or psychological commitment from attitudinal approach perspective. It can also be defined as "a favorable attitude towards the specific shopping mall" from the view point of preference of psychological commitment to shopping mall (Yoon, 2000; Chun & Choi, 2001).

3. Flow

Due to the difficulty problem of accurately conceptualizing flow, comprehensive studies on flow and modeling efforts are insufficient even though it has been studied for the past 20 years.

Flow is an expanded concept of joy, and considered to be determined by challenge and control. Csikszentmihalyi (1977) defined a flow as "a mental and physical excitement people feel when they behave in a state of total commitment". He argued that people in the flow state get acutely involved in the act of network navigation while screening out irrelevant thoughts and perceptions due to a narrower width of perception.

As shown in <Table 2>, the concepts of flow are various. The common components that could be extracted from these conceptual definitions are 'fun', 'enjoyment', 'happiness', 'curiosity', 'optimal experience', 'commitment', 'balance between skills and challenges', and 'time

distortion'. Thus, flow could be conceptualized as an optimal experience in which people feel fun, enjoyment, and happiness when they consider a certain behavior as challenges, and have skills to cope with it.

Hoffman & Novak (1996) explained the concept of flow from three different perspectives such as flow experience (which is intrinsically enjoyable, accompanied by a loss of self-consciousness), behavioral characteristics of flow activity (which is characterized by a seamless sequence of responses facilitated by machine interactivity, and self-reinforcing), and antecedents of flow (balance between skills and challenges of the interaction, focused attention on the interaction, telepresence). Hoffman & Novak (1996) suggested that structural model of flow experience is composed of a core experience factor of flow, playfulness, antecedents of flow (skills, challenges, interactivity, focused attention, affective arousal, telepresence), consequences of flow (positive subjective experience, exploratory behaviors).

<Table 2> Definitions of Flow

researchers	conceptual(operational) definition
Csikszentmihalyi (1997)	· a mental and physical excitement people feel when they behave in a state of total commitment
Privette & Bundrick (1987)	· intrinsically enjoyable experience which is similar to peak
Mannell, Zuznek & Larson (1988)	· it starts to occur when skills and challenges go beyond a certain level
Massimini & Carli (1988)	· it is organized by presuming a perception of influence of a certain behavior, potential, concentration, and balance between skills and challenges
LeFerve (1988)	· congruence of skills and challenges that is beyond one's average level
Csikszentmihalyi & LeFerve (1989)	· ratio of balance between skills and challenges which is beyond average level
Csikszentmihalyi (1990)	· optimum experience in which people enhance their abilities of learning new skills, and extend self-esteem when level of skills and challenges is high
Ghani, Supnick & Rooney (1991)	· feeling excitement, in-depth enjoyment, and the control over their behaviors
Trevino & Webster (1992)	· interaction with CMC technology is enjoyable, characterized as exploratory - extent of control over computer interaction users perceived - extent of stimulating user's curiosity during interacting - extent of finding user's intrinsic enjoyment
Clarke & Haworth (1994)	· an experience that is totally satisfying beyond a sense of having fun
Ellis, Voelkl & Morris (1994)	· an optimal experience that stems from peoples' perceptions of challenges and skills in given situations
Ghani, & Deshpande	· total concentration in an activity and the enjoyment which one derives from an activity

(1994)	• a factor affecting the experience of flow is a sense of control over one's environment
Lutz & Guiry (1994)	• state of total commitment in a certain incident, object, activity leading to unawareness of time passing with having no interests in anything at all
Hoffman & Novak (1996)	• the state occurring during network navigation, which is (1) characterized by a seamless sequence of responses facilitated by machine interactivity, (2) intrinsically enjoyable, (3) accompanied by a loss of self-consciousness, and (4) self-reinforcing
Novak, Hoffman, & Yung (1998)	• as multidimensional concept, composing of skills, challenges, control, arousal

III. Research Model and Hypotheses

1. Method and Research Model

1.1. Method

Using causality model, we try to figure out how structurally user's flow experience and website attractiveness affect or are related to an affective commitment that prompts user to have a positive, affective attachment to internet shopping mall. As shown in research model and hypotheses, we employed positive emotion, self-efficacy, interactivity as causal variables of flow, and used familiarity, reputation, uniqueness as antecedents of website attractiveness. It was proposed early that flow and website attractiveness affect an affective commitment, and a goal of our study is to investigate and test the structural model in which flow and website play a mediating role in relation between antecedents and affective commitment accordingly.

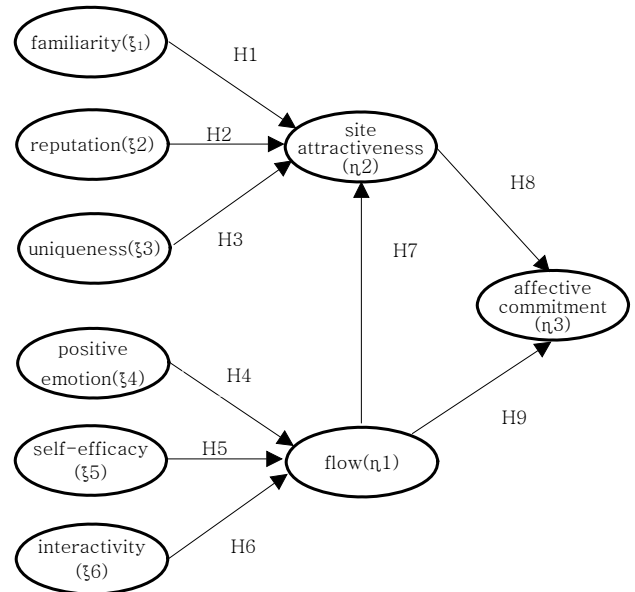
In this study, AMOS 5.0 has been utilized in order to examine the research model and hypotheses proposed on the basis of result of survey targeting users of internet shopping mall in Korea.

1.2. Research Model

As stated earlier, this study aims to empirically analyse what factors affect an affective commitment of customers who use internet web site continuously. Based on the theories, mentioned in chapter 2, regarding using various internet shopping mall, we proposed a flow and website attractiveness as variables that directly influence an affective commitment as shown in <Figure 1>. Familiarity, reputation, and uniqueness have been proposed as antecedents of website attractiveness, while positive emotion, self-efficacy, and interactivity were used as antecedents that affect flow.

In summary, research model shown in <Figure 1> demonstrates that website attractiveness plays a mediating role in relation between antecedents(familiarity, reputation, uniqueness) and affective commitment, while flow does the same role in relation between antecedents(positive emotion, self-efficacy, interactivity) and affective commitment. Besides, it shows that website attractiveness acts as a mediator between flow and affective commitment.

Therefore, in accordance with research model suggested in <Figure 1> focusing on internet clothing shopping malls, structural relations among factors affecting customers' affective commitment are to be empirically examined in this study.



<Figure 1> Research Model

2. Variables

As used in previous studies, each measurement item consists of 5-point Likert scale, and the details are as follows. Respondents were told to mark point 1 for 'Absolutely disagree', point 3 for 'Somewhat agree', and point 5 for 'Strongly agree'. Measurement items follow the same content and scale that have been mentioned in existing literatures, and some contexts were edited a little in accordance with situations.

2.1. Familiarity

In order to measure a familiarity explaining consumers' degree of familiarity with internet shopping mall, 4 items quoted from prior studies were used, and three of them from Ko's study (2005) were (1) familiar with searching for products, (2) familiar with product classification, (3) familiar with overall interface, and last one from Gefen & Straub (2004) was (4) I am not uncomfortable with shopping through the channel that I usually use.

2.2. Reputation

Reputation could be defined as online community's fame and famousness, or it means a positive reputation that consumer heard from others, and consumer's perceived size of shopping mall (Lee, H. B.,

2001). Based on the studies of Lee, H. B. (2001) and Javenpaa et al. (1999), reputation was measured with 2 items which were a little bit modified to fit into clothing shopping, and they were (1) the internet clothing shopping mall that I use is authorized by official institutes, and (2) the internet clothing shopping mall that I use is well-known one.

2.3. Uniqueness

An uniqueness implies a creative image differentiated from other homepages (Nah & Kim, 2004; Lee & Chung, 2006). Differentiated advertisement with original creativity has a more chance of making consumers to evaluate brand positively (Lee & Chung, 2006). Such external characteristics of web site as web site design, structural attribute, and multimedia quality differentiate itself from others. According to study of Nah & Kim (2004), an uniqueness was measured with 4 items such as (1) impressive, (2) new, (3) novel, and (4) eye-catching in this study.

2.4. Positive Emotion

A positive emotion was measured with 4 items used in study of Novak, Hoffman & Yung (2000). And they are (1) I was happy while staying in the internet clothing shopping mall that I frequently use, (2) I was delighted while staying on the internet clothing shopping mall that I frequently use, (3) I was satisfied while staying on the internet clothing shopping mall that I frequently use, and (4) I was relaxed while staying on the internet clothing shopping mall that I frequently use.

2.5. Self-efficacy

Self-efficacy implies judging how much individual has command of technique that he or she owns, not just technique itself. The constructs shown in the study of Bandura (1977, 1986) were adapted to fit our research model and applied to measuring self-efficacy. And three of them are followed as (1) I am confident of searching internet clothing shopping mall to purchase products that I want with better conditions (price, quality, etc), (2) I am confident of obtaining various product information while searching internet clothing shopping mall, and (3) I am confident of purchasing product efficiently while searching internet clothing shopping mall.

2.6. Interactivity

Interactivity means a degree of communication between consumer and internet shopping mall, and three items used in Lee & Koo (2001)'s study on interactivity with corporate (shopping mall) and consumer were utilized to measure interactivity. They are as follows: (1) I can post up a post-purchase comments and thoughts on bulletin board, (2) I can freely select the content (ex: price, recent product information, convenience, etc.) that I want, and (3) I can instantly obtain a information when I click a link to other clothing shopping site.

2.7. Website Attractiveness

Website attractiveness is a power of attracting people in a natural way not by force. Based upon Sung & Han's (1999) 5 items which were already verified in respect of reliability, we modified them to internet shopping mall and used following three of them to measure attractiveness, including: (1) I feel attracted to internet clothing shopping mall site that I use, (2) I have no regret about time I spent on internet clothing shopping mall site that I use, and (3) I have a good feeling toward internet clothing shopping mall site that I use.

2.8. Flow

The concept of flow experience in a computer-mediated environments implies the state occurring during network navigation (Hoffman & Novak, 1996). In this study, flow was measured with following 4 items used by Shon (2006), including: (1) I have a feeling of excitement and enjoyment while visiting site, (2) I often forget other things while experiencing new facts through visiting site, (3) I often concentrate on myself so well without distracting thoughts while visiting site, and (4) I concentrate my attention on site without recognizing time is passing by while visiting it.

2.9. Affective Commitment

Affective commitment selected as final dependent variable in this study can be defined as a continuous desire to maintain valuable relations (Moorman, Zaltman & Deshpande, 1992). Based on studies of Allen & Meyer (1990), Hassay (1999), Nuchai (1999), and Gruen et al. (2000), affective commitment was measured with following 6 items; (1) I feel affective attachment to internet clothing shopping mall that I use, (2) I feel the internet clothing shopping mall that I use gives meaning to my personal life, (3) I have felt that internet clothing shopping mall site that I use is part of my life, (4) I concentrate on internet clothing shopping mall site that I use, and stay on it, (5) I feel that internet clothing shopping mall site that I use exist only for myself, and (6) I feel a sense of friendliness toward internet clothing shopping mall site that I use, and like it.

3. Research Hypotheses

3.1. Familiarity

According to Figallo's (1998) study, familiarity implies the level of closeness among members participating a specific site, and it relates respectively with supervising event activity, face-to-face meeting, participatory design, etc. It was also revealed that familiarity is relevant directly to customer loyalty which is a key factor of success in a website community (Suh, K. S., 2003; Figallo, 1998).

Moreover, familiarity acts as a variable affecting formation of customer's trust against electronic commerce which has neither direct interaction nor facial contact (Gefen, 2000; Gefen & Straub, 2004), and it will make consumers stick around to stay on that particular site as a result of interaction with it. Consumers would not easily switch to

other shopping mall because they already became customized to use particular site with familiarity, and need to pay for switching cost such as complicated enrollment process to new one. Consumers having higher familiarity with a certain shopping mall site have a higher expectation of which their favorable expectation would be actualized, and feel more attractiveness with that particular internet site. Thus, we framed a hypothesis as followed.

H1: Familiarity with an internet clothing shopping mall will have a significant effect on the attractiveness of the internet shopping mall.

3.2. Reputation

Reputation is a degree of buyers' trust to sales organization, and consists of such factors as size of internet shopping mall and reputation (Jarvenpaa et al., 2000). Size of shopping mall and consumer's reputation for brand have a positive interrelation each other, and reputation itself provides clues that decrease risk, and acts as factor that builds a trust of shopping mall (Jarvenpaa et al., 2000; Jun, Huh & Kang, 2003).

Jang & Jung (2004) suggested a reputation as a clue that decreases risks of internet shopping mall, and declared that reputation has a positive relation with perceived product quality while it has a negative relation with perceived risk. And they also asserted that corporate's reputation of fashion collection buyers forms a trust, and positively affects re-purchase intention in internet shopping mall. In the end, reputation of brand in internet shopping mall reduces risk, forms a trust, and stirs up re-purchase.

Lohse & Spiller (1998) verified that reputation formed in physically existing store affects reputation of online site vice versa. A number of previous studies (ex; Liu et al., 1997) on users' activities in online environment have already testified that reputation plays a crucial role in using website and internet shopping mall, and it is expected to induce user's attractiveness to shopping mall. Based on these theoretical backgrounds, we set up a hypothesis as followed.

H2: Reputation of internet clothing shopping mall will have a significant effect on attractiveness of internet shopping mall.

3.3. Uniqueness

Berlyne (1971) who studied on response mechanism of characteristics of visual stimuli argued that creative advertisement visuals influence consumer's behaviors. And he also mentioned that wakening plays an essential role in forming characteristics of visual stimuli and essence of an aesthetic enjoyment. The state of wakening induces enjoyment by influencing individual boundary or an excited state. Wakening can be explained by two different concepts; first one is a relief of tensions resulted from a gradual rising and declining of wakening evoked by visual stimuli, and the other is an enjoyment along with it.

According to the result of Woo & Sung's (2005) comparative study on brain activation toward uniquely expressed visual and incon-

sistent visual with expectation, brain would be activated when retrieving information of stimuli, arousing emotion thereafter, and being furnished with cognitive functions for attention. Uniquely expressed visual chiefly activates a region of the brain relating to emotional response including functions for attention.

Visual's uniqueness combined with consumer's needs for uniqueness provokes consumer behavior (Tepper & Hoyle, 1996; Tepper et al., 2001). Such visual consists of a impressive visual factor, newness, novelty, and eye-catching figure, etc.

Websites only exist in cyber space. However, all shopping malls sites have their own unique appearances that differentiate themselves from others. According to Lee, H. B.'s (2001) study, using text made of graphics attracts people visually, and delivers information more effectively because design itself has an aesthetic, and positively affects reliability of information. Besides, changing the layout of the screen allows companies to appropriate screen frame with various media, and develop an interesting contents and deliver message effectively (Lee, H. B., 2001).

Based on these precedent studies, color, font, and layout were selected in this paper as factors of uniqueness which differentiate it from other sites, and uniqueness of website design supposedly influences user's site attractiveness. We suggested a following hypothesis accordingly.

H3: Uniqueness(color, font, layout) of an internet clothing shopping mall will have a significant effect on the attractiveness of the internet shopping mall.

3.4. Positive Emotion

Lambie & Marcel (2002) have divided a concept of emotion into sense of first order and sense of second order, and explained it by referring to phenomenon and cognition of emotion. Emotion of first order occurs before paying attention to object, and it exists in forms of biological, instinctive, and sensible response, while emotion of second order is perceived emotion by paying attention to object. Emotion of first order would be divided into positive emotion and negative emotion based on attributes of emotion. Negative emotion constricts people's attention and instantly narrows the range of thinking and behavior, on the other hand, positive emotion extends the range of attention by spurring an extensive thinking and behavior (Fredrickson, 1998, 2001; Shon, 2007). Positive emotion can be interpreted in the same context of extension and construct theory handling extension of the range of attention and behavior. Derryberry & Tucker (1994) focused on the effect of positive emotion on extending range of people's attention, thought, and behavior in their study, and Shon (2007) demonstrated a relationship between these variables. Especially, Shon (2007) investigated extension and construct theory in which positive emotion affects thought (flow) and behavior (game loyalty) with using attention as a mediating variable.

In this paper, we assume that positive emotion would affect flow, and selected only positive emotion such as fun and excitement except for negative emotion such as fear, boredom, apathy which turned out

to have no significant correlation between affective commitment and negative emotion in previous studies. Hypothesis regarding positive emotion is as followed.

H4: Positive emotion toward internet clothing shopping mall will have a significant effect on formation of flow.

3.5. Self-efficacy

Flow is the process of positive experience while holding a balance between consumer's skills and the challenges in process of interacting with computer-mediated environment (Hoffman & Novak, 1996). Skills refer to searching ability of consumer, and challenges can be defined as consumer's needs, inspiration, curiosity for web searching. Bandura (1986) argued that self-efficacy is conceptualized as a judgement and confidence toward one's own ability of performing a specific activity successfully, or perception mechanism mediating change of behavior, and he defined it as a belief or judgement toward one's ability of raising a series of activities, motivation, and perception resource, etc. Consumers will experience a flow if they acquire a positive experience while achieving an aim by means of an ability to use a website and belief or judgement toward aim. Bandura (1997) stated that satisfaction of achieving goal arouses an intrinsic interest more easily. Consumers with higher level of self-efficacy willingly set up a high level of challenge to experiencing internet shopping mall, and intrinsic interest will be induced by gaining satisfaction of achieving goal. Thus, in this paper, we assumed that consumer would experience more flow when self-efficacy is high, and framed a hypothesis as followed.

H5: The higher the self-efficacy level, the greater the significant effect on flow in internet clothing shopping mall.

3.6. Interactivity

Hoffman & Novak (1996) asserted that consumers who keep up the active interaction with internet website with higher level of commitment experience more flow. On the basis of previous studies on a causal relationship and measurement of flow, Novak et al. (2000) suggested the flow model which was applied to online environment, and empirically examined it. Novak and his colleagues suggested interactivity as antecedent of flow, and divided interactivity into three dimensions such as speed, range, and mapping. Kim & Joo (2001), however, claimed that speed at a certain website does not affect flow directly, but plays a role of variable mediating relations in which interactivity influences flow. Thus, we framed a following hypothesis as selecting interactivity as antecedent of flow in this paper.

H6: Interactivity toward internet clothing shopping mall will have a significant effect on forming flow.

3.7. Website Attractiveness

In general, website attractiveness implies an attractiveness of inter-

net shopping mall, and Baker & Churchill (1977) conceptualized attractiveness as persuasion effect of message by familiarity, favor, and similarity, etc. From perspective of preference to shopping mall and psychological commitment, attractiveness can be defined as "favorable attitude toward a specific shopping mall". Moreover, it means that other people's perception of attractiveness produce a larger outcome of compensation-cost than internal standards in theory of social exchange (Shaw & Costanzo, 1982).

Attractiveness at the early stage of buyer-seller relations is merely exogenous, and it is based on information collected from outside experience of individuals. In other words, reputation, fame, and geographical proximity serve as clues to induce buyers. Such clues lead to a more active interaction if they generate outcome in excess of internal standards resulting in positive evaluations. Tangible and intangible outcome resulted from maintaining interaction will be evaluated. Regarding this matter, Lee S. S. (2001) tried to understand affective commitment with multidimensional aspects, and suggested trust, self-exposure, familiarity, and relational attractiveness as antecedents of affective commitment. Thus, based on these precedent studies, we assumed that attractiveness influences an affective commitment of internet shopping mall, and set up a hypothesis as followed.

H8: Attractiveness toward internet clothing shopping mall will have a significant effect on affective commitment of shopping mall.

3.8. Flow

Flow is a concept of aesthetic experience which was extended and formalized, and refers to feeling interest and enjoyment of activity itself as if playing (Csikszentmihalyi & Leferve, 1989). Active social interaction and participation of online community members increase consciousness of kind (Muniz & O'Guinn, 2001). Continuous interaction increases consumer's exploratory activity, and makes flow experience occurs (Kim & Joo, 2001). Increased consciousness of kind between participants based upon interaction increases attractiveness to brand accordingly (Dutton et al., 1994). According to Kim, Park & Kim's study (2003), members of online game community beefed up consciousness of kind as having an active interaction with other members, and a positive effect on forming attractiveness to site was revealed. Likewise, individual who maintains a continuous commitment turn out to feel attractiveness to brand (Fournier, 1998), and it is presumed that flow, a continuous commitment, has a positive effect on attractiveness to site. In addition, it implies a freedom, flexibility, or creativity that internet users feel when they select and try certain things. Thus, we assumed that more flow experience will have a more positive effect on attractiveness to internet site. Affective commitment to shopping mall also includes an affective enjoyment from using internet shopping, and psychological ties with shopping site (Chu, 2003). Following hypothesis was framed accordingly.

H7: Flow felt in internet clothing shopping mall will have a significant effect on attractiveness to shopping mall.

H9: Flow felt in internet clothing shopping mall will have a sig-

nificant effect on affective commitment of shopping mall.

IV. Methodology

1. Sample and Data Collection

The data were collected from individuals who ever purchased clothing through internet during the past three months, and we conducted a survey with returned questionnaires of 1,043. <Table 3> shows demographic characteristics of respondents.

<Table 3> Demographic Characteristics of Sample

Variables	Categories	no. of respondents	ratio(%)
Gender	Male	217	20.8
	Female	826	79.2
Age	10's	407	39
	20's	387	37.1
	30's	175	16.8
	40's	53	5.1
	over 50's	21	2.0
Education	highschool	464	44.5
	college student	54	5.2
	university student	187	17.9
	university graduate	296	28.4
	graduate school	42	4.0
Occupation	student	604	57.9
	office worker	243	23.3
	professional worker	56	5.4
	self-employed	24	2.3
	housewife	54	5.2
	others	62	5.9
Number of internet shopping mall used	none	0	0
	1 ~ 2	330	31.6
	3 ~ 4	470	45.1
	5 ~ 7	195	18.7
	more than 8	48	4.6
Average number of purchase per year through internet shopping mall	1 ~ 2 a year	154	14.8
	3 ~ 4 a year	207	19.8
	5 ~ 6 a year	161	15.4
	7 ~ 8 a year	33	3.2
	more than 9 a year	488	46.8
Period of using internet shopping mall	less than 1 month	55	5.3
	1 ~ 6 month	111	10.6
	7 ~ 12 month	20	1.9
	1 ~ 3 year	320	30.7
	more than 3 year	537	51.5

2. Reliability Checks

We examined reliability to see if each variable was consistently measured with more than one item. Reliability refers to a variance of measured values when the same construct is measured repeatedly under the same condition with the same subjects. Cronbach's α was calculated to check on reliability for measurement items of each variable. In general, reliability is considered to be acquired if coefficient of reliability is over 0.6. <Table 4> shows a number of measurement items of individual variable and Cronbach's α .

<Table 4> Reliability for Construct

variables	initial no. of items	final no. of items	Cronbach's α
Familiarity	4	4	.840
Reputation	2	2	.651
Uniqueness	4	4	.901
Positive emotion	4	4	.876
Self-efficacy	3	3	.908
Interactivity	3	3	.758
Website attractiveness	3	3	.785
Flow	4	4	.847
Affective commitment	6	6	.904

As shown in <Table 4>, Cronbach's α for most measurement items indicates a high level of reliability with having .758 - .908 except for variable reputation with .651, and they were utilized in analysis accordingly.

3. Confirmatory Factor Analysis

We performed confirmatory factor analysis in order to make sure how properly measurement used for measuring each construct represents relevant attributes.

3.1. Confirmatory factor analysis for group of independent variables

In the case of independent variables, a total of twenty items were measured; four for familiarity, two for reputation, four for uniqueness, four for positive emotion, three for self-efficacy, and 3 for interactivity. According to the result of confirmatory factor analysis for independent variables as shown in <Table 5>, factor loadings between exogenous observed variables and exogenous latent variables was calculated at $\lambda > 0.45$ ($t > 1.965$), and it follows that observed variables properly reflect latent variables. And fit index including $\chi^2 = 579.75$ ($df = 155$) $p = 0.00$, GFI=.943, AGFI=.923, CFI=.965, RMR=.032, RMSEA=.051 appeared to be satisfactory.

<Table 5> Confirmatory Factor Analysis for Independent Variables

path	unstandardized coefficient	std. error	t	p	factor loading
positive3 ← positive emotion	1.272	.065	19.717	.000	.777
positive4 ← positive emotion	1.000*	-	-	-	.597
familiarity1 ← familiarity	1.363	.075	18.222	.000	.786
familiarity2 ← familiarity	1.485	.078	19.055	.000	.859
familiarity3 ← familiarity	1.414	.075	18.815	.000	.835
familiarity4 ← familiarity	1.000*	-	-	-	.567
reputation1 ← reputation	1.271	.104	12.236	.000	.776
reputation2 ← reputation	1.000*	-	-	-	.623
positive1 ← positive emotion	1.473	.068	21.652	.000	.908
positive2 ← positive emotion	1.524	.070	21.774	.000	.920
efficacy1 ← self-efficacy	1.036	.029	35.963	.000	.872
efficacy2 ← self-efficacy	1.032	.027	37.535	.000	.900
efficacy3 ← self-efficacy	1.000*	-	-	-	.857
interactivity1 ← interactivity	1.019	.055	18.459	.000	.672
interactivity2 ← interactivity	1.112	.053	20.889	.000	.819
interactivity3 ← interactivity	1.000*	-	-	-	.690
uniqueness1 ← uniqueness	.861	.031	27.980	.000	.759
uniqueness2 ← uniqueness	1.017	.030	33.929	.000	.866
uniqueness3 ← uniqueness	1.006	.029	34.600	.000	.879
uniqueness4 ← uniqueness	1.000*	-	-	-	.838

* fixed at 1.0 and then analysed

3.2. Confirmatory factor analysis for a group of mediating variables

In case of mediating variables, a total of seven items were measured; three for website attractiveness, and four for flow. According to the result of confirmatory factor analysis for mediating variables as shown in <Table 6>, factor loadings between exogenous observed variables and exogenous latent variables were calculated at $\lambda > 0.45$ ($t > 1.965$), and it follows that observed variables properly reflect latent variables. And fit index including $\chi^2 = 140.42$ ($df = 13$) $p = 0.00$, GFI = .964, AGFI = .923, CFI = .959, RMR = .044, RMSEA =

.097 appeared to be satisfactory.

<Table 6> Confirmatory Factor Analysis for Mediating Variables

path	unstandardized coefficient	standard error	t	p	factor loading
Attractiveness1 ← Attractiveness	.856	.041	20.839	.000	.711
Attractiveness2 ← Attractiveness	.941	.046	20.505	.000	.695
Attractiveness3 ← Attractiveness	1.000*	-	-	-	.843
FLOW2 ← Flow	.870	.034	25.810	.000	.737
FLOW3 ← Flow	1.000*	-	-	-	.852
FLOW4 ← Flow	1.035	.035	29.837	.000	.837
FLOW1 ← Flow	.669	.031	21.258	.000	.632

* fixed at 1.0 and then analysed

3.3. Confirmatory factor analysis for dependent variables

The dependent variable, affective commitment, was measured with six items. According to the result of confirmatory factor analysis for dependent variable as shown in <Table 7>, factor loading between observed variables and latent variables was calculated at $\lambda > 0.45$ ($t > 1.965$), and it follows that observed variables properly reflect latent variables. And fit index including $\chi^2 = 184.52$ ($df = 9$), $p = 0.00$, GFI = .945, AGFI = .871, CFI = .954, RMR = .035, RMSEA = .137 appeared to be satisfactory.

<Table 7> Confirmatory Factor Analysis for Dependent Variables

path coefficient	unstandardized coefficient	std. error	t	p	factor loading
commitment1 ← affective commitment	.808	.027	29.617	.000	.777
commitment2 ← affective commitment	.924	.027	33.913	.000	.848
commitment3 ← affective commitment	1.000*	-	-	-	.853
commitment4 ← affective commitment	.880	.029	30.199	.000	.787
commitment5 ← affective commitment	.839	.032	26.172	.000	.713
commitment6 ← affective commitment	.747	.028	26.900	.000	.727

* fixed at 1.0 and then analysed

4. Measurement Model Analysis

After confirmatory factor analysis for independent variables, mediating variables, and dependent variables was performed, another confirmatory factor analysis for every construct was carried out in order to test discriminant validity and convergent validity for all constructs. As shown in <Table 9>, measurement model's fit index including $\chi^2=1922.2(df=459)$, $p=0.00$, $GFI=.891$, $AGFI=.867$, $CFI=.932$, $RMR=.044$, $RMSEA=.055$ appeared to be satisfactory.

As a result of analysis of convergent validity for each construct, convergent validity was validated with a significant standard factor loading ($t>18.00$). Moreover, discriminant validity and convergent validity for each construct were confirmed with following two methods. First, 1.0 must not be included in confidence interval of ϕ coefficient [$\phi \pm (2 \times \text{std. error})$] that shows correlation among model constructs (Anderson & Gerbing, 1988). As shown in <Table 8>, confidence interval of every ϕ coefficient did not include 1.0. Thus, discriminant validity among model constructs can be said to be validated.

<Table 8> Mean, Standard Deviation, and Correlation Matrix

	mean	standard deviation	1	2	3	4	5	6	7	8	9
1. Familiarity	3.77	.70	1								
2. Reputation	4.06	.69	.460	1							
3. Uniqueness	3.25	.71	.370	.249	1						
4. Positive emotion	3.35	.70	.458	.290	.471	1					
5. Self-efficacy	3.60	.83	.549	.317	.281	.424	1				
6. Interactivity	3.68	.70	.520	.307	.270	.385	.592	1			
7. Attractiveness	3.50	.67	.482	.316	.528	.666	.445	.392	1		
8. Flow	3.30	.78	.375	.231	.393	.585	.389	.365	.503	1	
9. Affective commitment	2.73	.82	.320	.128	.453	.575	.343	.303	.490	.632	1

* coefficient of correlation among all variables is $p<0.01$ (two-tailed test)

Second, average variance extracted (AVE) must be larger than squared correlation of all constructs (Fornell & Lacker, 1981). As AVE of every construct was over .50 and larger than squared correlation, discriminant validity and convergent validity for each construct were confirmed (see <Table 9>).

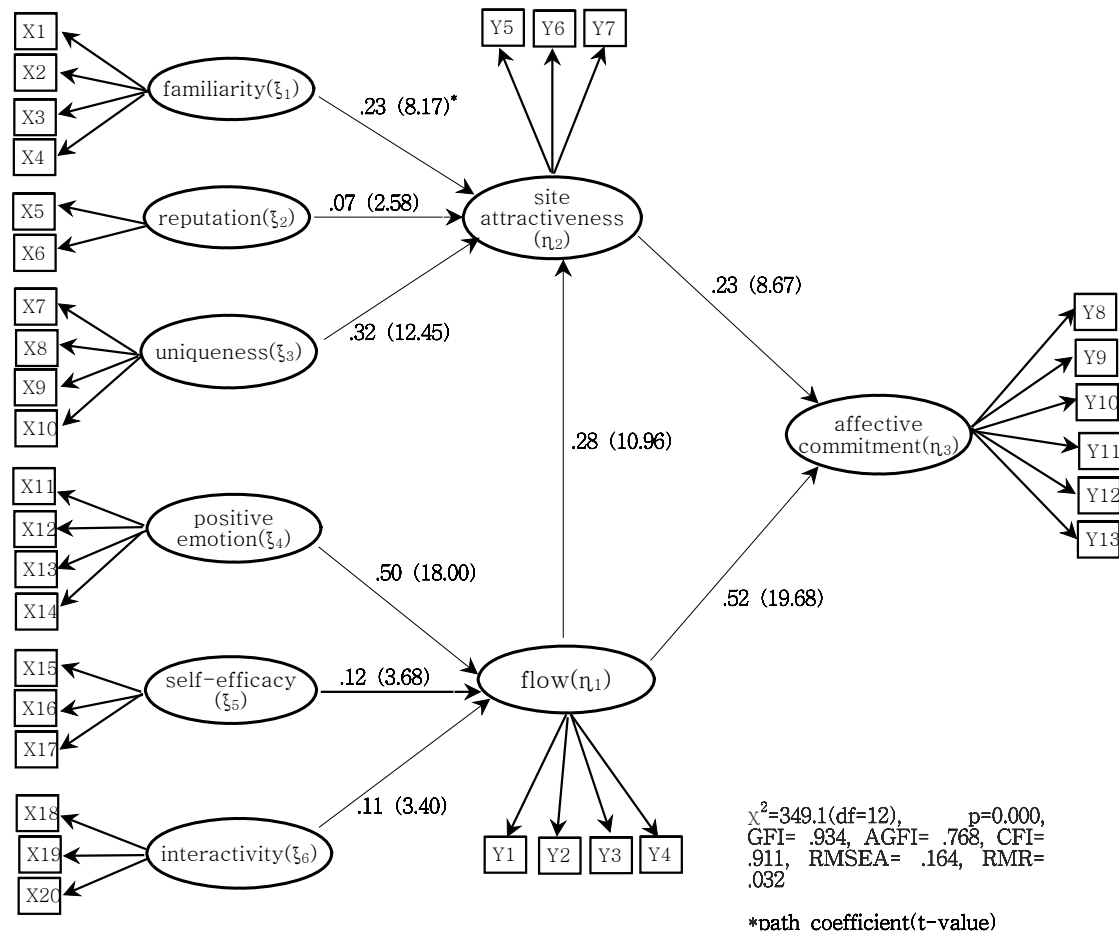
<Table 9> Measurement Analysis for all Constructs

construct and measurement item	factor loadings	t-value	coefficient alpha	average variance extracted
positive1 $\leftarrow$ positive emotion	.904	22.080	.916	.737
positive2 $\leftarrow$ positive emotion	.917	22.240		
positive3 $\leftarrow$ positive emotion	.785	20.198		
positive4 $\leftarrow$ positive emotion	.606	-*		
familiarity1 $\leftarrow$ familiarity	.787	18.274	.886	.666
familiarity2 $\leftarrow$ familiarity	.858	19.098		
familiarity3 $\leftarrow$ familiarity	.835	18.861		
familiarity4 $\leftarrow$ familiarity	.568	-*		
reputation1 $\leftarrow$ reputation	.756	12.913	.750	.601
reputation2 $\leftarrow$ reputation	.639	-*		
efficacy1 $\leftarrow$ self-efficacy	.872	36.069	.923	.802
efficacy2 $\leftarrow$ self-efficacy	.898	37.585		
efficacy3 $\leftarrow$ self-efficacy	.858	-*		
interactivity1 $\leftarrow$ interactivity	.674	18.456	.821	.606
interactivity2 $\leftarrow$ interactivity	.821	20.852		
interactivity3 $\leftarrow$ interactivity	.686	-*		
uniqueness1 $\leftarrow$ uniqueness	.759	28.143	.933	.777
uniqueness2 $\leftarrow$ uniqueness	.865	34.103		
uniqueness3 $\leftarrow$ uniqueness	.878	34.839		
uniqueness4 $\leftarrow$ uniqueness	.840	-*		
attractiveness1 $\leftarrow$ attractiveness	.746	24.124	.853	.660
attractiveness2 $\leftarrow$ attractiveness	.693	22.246		
attractiveness3 $\leftarrow$ attractiveness	.808	-*		
flow1 $\leftarrow$ flow	.660	22.544	.868	.621
flow2 $\leftarrow$ flow	.736	25.914		
flow3 $\leftarrow$ flow	.840	-*		
flow4 $\leftarrow$ flow	.832	30.316		
commitment1 $\leftarrow$ affective commitment	.788	25.801	.907	.620
commitment2 $\leftarrow$ affective commitment	.842	27.750		
commitment3 $\leftarrow$ affective commitment	.833	27.446		
commitment4 $\leftarrow$ affective commitment	.804	26.380		
commitment5 $\leftarrow$ affective commitment	.696	22.516		
commitment6 $\leftarrow$ affective commitment	.747	-*		

* fixed at 1.0 and then analysed

5. Result of Structural Model Analysis

<Figure 2> shows a result of structural model analysis, and a result of hypothesis test is as below.



< Figure 2> Result of Structural Model Analysis

Hypotheses H1 through H3 regarding relation with familiarity, reputation, uniqueness, and website attractiveness were all supported. Hypotheses H4 through H6 regarding relation with positive emotion, self-efficacy, interactivity, and flow were also supported. Hypotheses H7 through H9 regarding relation with website attractiveness, flow, and affective commitment were all supported too.

<Table 10> Result of Structural Model Analysis

path	hypothesis	standardized coefficient	std. error	t	p
Familiarity → Attractiveness	H1	.232	.027	8.165	.000
Reputation → Attractiveness	H2	.068	.026	2.576	.010
Uniqueness → Attractiveness	H3	.321	.024	12.447	.000
Positive emotion → Flow	H4	.496	.031	18.002	.000
Self-efficacy → Flow	H5	.116	.030	3.681	.000
Interactivity → Flow	H6	.105	.035	3.398	.000
Flow → Attractiveness	H7	.279	.022	10.957	.000
Attractiveness → Affective commitment	H8	.229	.032	8.671	.000
Flow → Affective commitment	H9	.519	.027	19.677	.000

V. Conclusions

A research model was established, and then an empirical analysis was carried out in order to strengthen competitiveness of internet shopping mall by inducing customer's affective commitment. In this study, site attractiveness and flow were set up as variables affecting affective commitment, and they can be described as systematic attributes of internet shopping mall and characteristics of shopping mall users respectively. Familiarity, reputation, uniqueness were used as antecedents of site attractiveness, and positive emotion, self-efficacy, interactivity were applied as antecedents of flow, and causal relationship between two variables was examined. Result of this study is as below.

First, systematic attributes causing website attractiveness and user's characteristics triggering customer's flow play a crucial role in inducing customer's affective commitment, and user's characteristics are twice as important as systematic attributes in this study.

Second, familiarity, reputation, and uniqueness have all significant effect on website attractiveness, and it showed that uniqueness took the first place, familiarity and reputation followed in order of magnitude. The fact that reputation was not the most important factor that affects attractiveness of internet shopping mall, but uniqueness or familiarity has more impact on it suggests much more implications.

Third, as a result of empirical analysis, positive emotion, self-efficacy, and interactivity have all significant effect on customer's flow. Especially, the fact that positive emotion, compared to self-efficacy or interactivity, has much more impact on flow is very suggestive.

While we established research model and hypotheses based on precedent studies, and carried out empirical analysis, we have found several limitations in this study as followed.

First, there surely will be more factors other than site attractiveness and flow that affect affective commitment even though we examined previous studies on affective commitment and came up with relevant hypotheses. In addition, there probably will be another antecedents of site attractiveness and flow we missed. Thus, additional variables should be considered in the relevant studies in the future.

Second, the object of this study was limited to clothing purchasing behavior in internet shopping mall. Since we did not seem to control carefully over external environment factors such as the size and history of internet shopping mall, price of products respondents purchased, and income level of respondents, a result of this study was probably skewed in some degree.

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