

**CONSUMER BEHAVIOR ON THE INTERNET: INVESTIGATING SEARCH,  
EXPERIENCE, AND CREDENCE PRODUCT CLASSIFICATION**

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A Thesis  
in  
The John Molson School of Business

Presented in Partial Fulfillment of the Requirements  
for the Degree of Master of Science in Administration (Marketing) at  
Concordia University  
Montreal, Quebec, Canada

October 2006

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*Your file* *Votre référence*  
*ISBN: 978-0-494-30313-9*  
*Our file* *Notre référence*  
*ISBN: 978-0-494-30313-9*

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## ABSTRACT

### **Consumer Behavior on the Internet: Investigating Search, Experience, and Credence Product Classification**

Zhikun Wu

This paper extends the previous literature by proposing a new model incorporating search-experience-credence product classification. The present research investigates the role of the Internet as an information source on the continuum of the search-experience-credence product categorization. Moreover, this research studies some specific factors that influence the information search on the Internet.

The pretest distinguishes search, experience, and credence product. The data collection methods, survey instruments, and sample characteristics are reported. The operationalization of the observed and latent variables, scale development, and statistical data analyses of hypothesis are described.

The findings show that entertainment and effectiveness of information content positively relate to attitude toward website and purchase intention. Attitude toward website, moderated by need for cognition and site involvement, positively relates to purchase intention. The relationship between attitude toward website and the flow experience is replicated in different context. Results also show that the search-experience-credence product framework is salient in the context of online shopping. Theoretical and managerial implications and future research are discussed.

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## INTRODUCTION

With annual internet sales in the billions, retailers are considering the Internet as an outlet because of its wide reach, low cost, and consumer feedback facility. Berthon et al. (1996) describe it as a giant international exhibition hall where potential consumers browse vigorously, and interact with peer attendees with the informal casualness of a community market. An important consideration in the analysis of the Internet as a media environment is to recognize that it presents unique characteristics (Hoffman and Novak 1997). First, the Internet is a virtual and many-to-many hypermedia environment including interactivity with both people and computers (Hoffman and Novak 1996). Second, distance and time are compressed. Third, consumers have more control over the information they seek and the websites they visit (Alba et al. 1997). Because the Internet bears these fundamentally different factors from conventional physical stores or catalogs (Hoffman and Novak 1996), marketing activities and consumer behavior need to be re-evaluated in this context.

For many years, the consumer product classification framework essentially adheres to Copeland's (1924) original three product classification paradigm. Other product classification schemes such as durable versus non-durable and expensive versus inexpensive also are studied in the marketing literature (Ryans 1974). Klein (1998) proposes the search, experience and credence product framework for consumer information search. On the Internet, the boundaries among conventional product categorization almost disappear because the features of the products (i.e., price, quality,

performance, dimensions) can be compared easily and examined visually; even some products such as music and movies can be experienced conveniently. However, little is known in how consumers search products differently on the Internet from traditional ways. The application of search-experience-credence product classification (Nelson 1970; Darby and Karni 1973; Klein 1998) on the Internet, to our knowledge, has yet to be theoretically investigated.

To date, research has yet to consider the impact of the Internet's information distribution capabilities on the consumer choice of different products. Studying the antecedents of purchase intention on the basis of search-experience-credence product classification, therefore, may shed light on predicting consumer choice on the Internet. Additionally, understanding how information search varies in product classes, what website attributes are important to consumers, and how consumer purchase intentions vary across product classification is important for sponsors of websites to make strategic decisions. By increasing the amount of information about relevant product attributes, reducing uncertainty, and moderating the degree of consumer need to try products prior to purchase, marketers may be able to transform an experience even credence product into a search product (Klein 1998). Thus, in order to develop marketing strategies, there is a need to understand the aforementioned situations in light of consumers' individual factors with specific products. This research identifies those attributes that are important to consumers for different categories of products.

This paper extends the extant literature by proposing a new model incorporating



search-experience-credence product classification on the basis of Richard's (2005) model.

The present research investigates the following research questions: (1) the degree of the role of the Internet as an information source on the continuum of the search-experience-credence product classification; (2) the specific factors that influence the information search on the Internet, for example, emotion and need for cognition; (3) the salient search-experience-credence product framework of the online shopping.

## LITERATURE REVIEW

### **Product classification**

Copeland (1924) put forward three-product classification: convenience, shopping, and specialty. Convenience goods are those customarily purchased at easily accessible stores. Shopping goods are those for which consumers desire to compare prices, quality, and style at the time of purchase. Specialty goods are those which have some attraction for consumers, other than price, which induces consumers to put forth special effort to visit the store in which they are sold and to make the purchase without shopping. The framework is used most widely in the marketing literature. However, it is not applicable to shopping on the Internet because the Internet gives consumers opportunities to compare product attributes, and facilitates easily locating hard-to-find products (Girard 2005).

Stigler's (1961) theory of search suggests that consumers will search until the marginal expected cost of search becomes greater than its marginal expected return. Based on this theory, Nelson (1970; 1974) proposes a two-product categorization: search products and experience products. Search products are those whose qualities consumers can determine without actual inspection prior to purchase of the brand; and experience products are those whose qualities consumers cannot determine without direct experience (Girard 2005). Unlike other classification schemes, Nelson's scheme relies primarily on the fundamental attributes of the product itself and not the buyer's perceptions of it (Norton and Norton 1988). Nelson (1970) explains that consumers may prefer by way of

experience rather than by way of search even when experience is expensive. Nelson's point indicates that information search cost may not be the only factor between search and experience products. For experience products, Nelson (1974) predicts that the information search for experience products is characterized by a greater reliance on word-of-mouth and advertising. Attributes like search time and distance become relevant when consumers prefer to experience products prior to purchase (Girard 2005). In brief, consumers will undertake less search because of the inability to obtain the most valuable product information prior to use and will rely more heavily on product experience (Klein 1998).

Darby and Karni (1973) add a third class, namely credence products. Credence qualities are those which, although worthwhile, cannot be evaluated in normal use. The assessment of credence value requires additional costly information. The inability to evaluate product attribute information increases the perceived risk associated with purchase even after the purchase (Girard 2005). Darby and Karni (1973) indicate that the distinctions between experience and credence products may not always be as obvious as those between search and experience products.

Klein (1998) proposes a new model of consumer information search that integrates the principles of information economics and a goods classification model based on the search-experience-credence classification. Klein (1998) classifies experience products as two categorizations: products whose dominant attributes cannot be known until the purchase and use of the products; products for which information search is more

costly/difficult than direct experience. With the emergence of the Internet, the information search may be influenced by the new capabilities of communication media. For search products, the Internet will provide a more accessible, less costly, and more time-saving information search. For experience and credence products, the Internet may bring consumers the greatest value through a brand-new “virtual experience” (Klein 1998). Klein (1998) suggests that if full information on critical product attributes can be available for consumers at a cost that is lower than direct experience, the product can be regarded as a search product. The marketer can turn an experience even credence product into a search product by allowing consumers to somehow experience the product virtually before purchase.

In line with Klein (1998), Girard (2005) identifies two alternative conditions for experience products in her proposed four-product classification framework. Experience-1 products are those which bear certain types of risks so that consumers prefer direct experience. Experience-2 products are those for which consumers may need to expend more time and mental and physical effort than directly experiencing the products. She explains that the search-experience-credence product classification framework may provide a more salient classification scheme that integrates the role of the Internet shopping into the buyer’s daily purchasing decision process. Owing to the Internet’s distinctive characteristics from traditional retailers, the product may more properly be classified based on the degree of cost/difficulty of obtaining relevant product attribute information (Girard 2005). Compared to Copeland’s (1924) product classification, the

search-experience-credence product framework may reflect the information distribution capabilities from the Internet.

For the reason of the simplification of research methodology, the present study adopts the three-product classification scheme on the basis of Girard's (2005) framework by combining the two experience classifications:

**Search products** are those whose relevant attribute information could be easily obtained prior to use or purchase.

**Experience products** are those whose relevant attribute information could not be known without direct experience or is more costly/difficult than direct product experience.

**Credence products** are those for which relevant attribute information is not available prior to as well as after the use of the products.

### **Information and entertainment**

When consumers voluntarily see the content of advertising messages, information processing is more active and intensive than passive exposure without voluntary action (Cho 1999). This voluntary action will intensify cognitive processes. Therefore, the information processing on the Internet requires more conscious cognitive effort and is more interactive than that in traditional media (Cho 1999).

Huizingh (2000) develops a framework to analyze and categorize the capabilities of websites. In the research, content refers to the information, features, or services that are

offered on websites; whereas design is defined as the way the content is made available for visitors. Content consists of commercial and non-commercial information, transaction, entertainment, and the perception of the content. The perception of the content can be measured as the degree to which a website is considered to be informative.

On the Internet, consumers consider the main role of a website is to provide information. A website is informative when it is able to inform consumers of product alternatives from which consumers can obtain the greatest possible satisfaction (Ducoffe 1996). Chakraborty et al. (2003) suggest informativeness is the ability of a website to make information available, and it is not same as the actual amount of information available on a website. Sheehan and Doherty (2001) reveal that websites are used as a part of an integrated communication strategy to serve higher objectives such as creating desire and action. This suggests that the ability of a website to communicate information effectively is regarded as one of the more important predictors of website effectiveness (Chakraborty et al. 2003).

Entertainment value is expected to be an important source of value for consumers through its ability to enhance the experience of visitors to a website (Ducoffe 1996). Entertainment may be thought of as the extent to which consumers enjoy the website. Several recent research suggest that the effectiveness of a website depends on whether visitors to a website feel that it can engage their attention by being fun, exciting, pleasurable, enjoyable, or entertaining (Bruner and Kumar 2000; Eighmey 1997). The utilization of interesting themes, flashy and graphical information, and appealing layout

design may contribute to the entertaining characteristic of a website.

Eighmey (1997) find that effective websites demonstrate the productive interaction of information and entertainment. Chen and Wells (1999) provide a scale of attitude toward the website, consisting of three main factors – entertainment, informativeness, and organization. The entertainment factor is defined as fun, exciting, cool, imaginative, entertaining, and flash; while the informativeness factor is described as informative, intelligent, knowledgeable, resourceful, useful and helpful. On the Internet, entertainment reflects the extent to which a website successfully positions itself as an interesting site. Accordingly, informativeness focuses on a website as an interactive provider (Chen and Wells 1999).

Huang (2005) provides a scale of web performance consisting of utilitarian and hedonic value. The utilitarian aspect is the positive evaluative outcome of a website's informative attributes. Utilitarian performance results from web users visiting the website for necessity rather than recreation. Alternatively, the hedonic aspect is the positive evaluative outcome of a website entertainment attributes from which web users feel playful and pleasurable.

### **The theory of flow**

Simply put, flow is the process of optimal experience (Csikszentmihalyi 1977) engendered by a multitude of antecedents necessary for the experience and followed by a set of consequences. Hoffman and Novak (1996) define the flow in the online 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. When experiencing the flow state, consumers feel time distorted and nothing else seems to matter (Csikszentmihalyi 1997). Concentration on the Internet is so intense that there is little attention left to consider anything else, and thus other events occurring in the ambient environment lose significance.

Novak et al. (2000) conceptualize the flow on the Internet as a cognitive state experienced during navigation that is determined by (1) high levels of skill and control; (2) high levels of challenge and arousal; (3) focused attention; and (4) is enhanced by interactivity and telepresence. Consumers who achieve the flow on the Internet are so acutely involved in the act of online navigation that thoughts and perceptions not relevant to navigation are screened out, and consumers focus entirely on the interaction.

Ghani et al. (1991) explore a model in the context of computer-mediated interaction and find that control and challenge predict the flow, which is measured by four items of enjoyment and four items of concentration. Trevino and Webster (1992) propose a causal model in their study of workers' perceptions of the flow during email and voice mail interactions. They utilize a model of the flow that consists of four items measuring control, attention focus, curiosity, and intrinsic interest. Ellis et al. (1994) provide a flow channel segmentation model, which is based on Csikszentmihalyi's (1997) definition of the flow that is defined as the congruence of skills and challenges. Other research extends the flow channel segmentation model by several combinations of the channels – anxiety,



boredom, skill, and challenge (e.g., Massimi and Carli 1988). On the basis of previous research, Hoffman and Novak (1996) conceptualize a general model of the flow which introduces a series of 15 research issues related to interactive computer-mediated environments.

To obtain the flow experience, consumers must perceive a balance between their skills and challenges, and both skills and challenges must be above a critical threshold. Skills are defined as a consumer's capacities for action, and challenges as the opportunities for action available to the consumer (Hoffman and Novak 1996). Several studies observe that high skills and challenges lead to a satisfying consumer experience on the Internet (e.g., Hoffman and Novak 1996; Csikszentmihalyi 1997). Previous studies also suggest that consumers perceive control and arousal when their skills and challenges are relatively high (Ellis et al. 1994; Massimini and Carli 1988). It seems that enhanced control and arousal helps a satisfying online experience (Ghani et al. 1991). In addition, interaction is identified as one of the key antecedent of the flow. The greater the interaction between consumers and a website, the more they attend to the website that is important, relevant, and useful (Richard 2005). Wu (2000) finds that perceived interaction has positive influences on attitude toward the website, attitude toward the brand, and purchase intention. Similarly, Yoo and Stout (2001) observe that consumers' intention to interact with a website positively influenced attitude toward the website and purchase intention.

Csikszentmihalyi (1977) illustrates that the flow experience formalizes and extends

a sense of playfulness. Some research has proved that the flow is more likely to be associated with play activities than work or task-oriented activities. Novak et al. (2000) indicate that compelling online consumer experiences are positively correlated with recreational and experiential uses of the Internet but negatively correlated with work-oriented activities. However, Novak et al. (2003) find more evidence of the flow for task-oriented rather than experiential activities, although the flow experience is present in both types of activities.

According to Csikszentmihalyi (1997), a website must be challenging, competitive, and provide feedback to its users in order to encourage the occurrence of the flow. Thus, creating a commercially compelling website depends on facilitating a state of the flow, and an important objective for online marketers is to provide for the flow opportunities. Donovan et al. (1994) find that pleasure resulting from store atmosphere could significantly influence consumer behavior, including willingness to return. As the same line with physical retailing, the more positive a consumer feel about a website after feeling the flow while browsing the website, the more likely the consumer will be to engage in repeated visits to the website.

### **Attitude toward the website**

For a long time, the impact of attitude toward an ad ( $A_{ad}$ ) is of central concern in the research stream. The  $A_{ad}$  is defined as a predisposition to respond in a favorable or unfavorable manner to a particular advertising stimulus during a particular exposure

situation (MacKenzie et al. 1986). Haley and Baldinger (1991) have suggested that liking of an ad may be the best indicator of advertising effectiveness. In the advertising research, the  $A_{ad}$  is regarded as a mediator of advertising's effects on brand attitude (Holbrook and Batra 1987) and purchase intention (Brown and Stayman 1992). The  $A_{ad}$  has a strong direct impact on attitude toward the brand, which in turn has a strong positive influence on purchase intention. The process results in the hierarchy-of-effects of advertising. In traditional advertising, exposure is incidental, and most studies in advertising effects have adopted forced-exposure conditions or used television commercials of fixed-length exposure (Raman and Leckenby 1998). Consumers have little control over the exposure.

Previous research has measured the  $A_{ad}$  as both unidimensional and multidimensional scales. Olney et al. (1991) indicate that unidimensional scales are inadequate because these measures do not capture sufficient variance attributed to the  $A_{ad}$ . They identify  $A_{ad}$ 's attitudinal components: hedonism, utilitarianism, and interest, which are more useful measures accounting for more than 91 percent of the total variance. Hedonism is regarded as an evaluation of entertainment value of an ad. Utilitarianism refers to an evaluation of usefulness of an ad. Interest is defined as an evaluation curiosity (Raman and Leckenby 1998).

If today's websites are to resemble and reflect the characteristics of traditional ads, then attitude toward the website should lead to consequences similar to those found in attitude research. One's reaction to the context in which a commercial is processed seems likely to influence how one reacts to an ad (Bruner and Kumar 2000). Prior research has

supported this expectation in the context of TV ads. The more positive the consumer's reaction to the TV program, the more positive the impact on the advertising hierarchy-of-effects (Murry et al. 1992). Similarly, we can assume that attitude toward the website will be an equally useful indicator as  $A_{ad}$  in the hierarchy-of-effects

Singh and Dalal (1999) suggest that web homepages can be evaluated using the conventional attitude measures such as attitude toward the homepage and attitude toward the sponsor of the homepage. Stevenson et al. (2000) introduce the concept of attitude toward the website and shows how it can play an important role in advertising effectiveness as measured by  $A_{ad}$ , attitude toward the brand, and purchase intention.

Similar to these schemes, Chen and Wells (1999) propose a reliable and valid scale that measures attitude toward the website: entertainment, informativeness, and organization. Chen et al. (2002) prove that the scale is reliable and robust across considerable changes on websites. The three-item scale accounts for more than 80 percent of the variance in attitude toward the website.

## **Emotions**

One can infer from the environmental psychology literature that consumers respond to dimensions of the physical surroundings emotionally and cognitively, and in turn those responses influence consumer behavior within the environment (Mehrabian and Russell 1974). That is, the environment does not directly cause consumer behavior. In some ways, emotion plays an important role in facilitating the interactions. In the marketing context,

knowledge of consumers' emotion may provide marketers a more comprehensive understanding of consumer behavior. As Menon and Kahn's research (2002), the present study assumes that emotion will work in the same manner that mediates consumer's reaction on the Internet.

The three typologies of emotion that researchers most often utilize are Izard's (Izard 1977) 10 fundamental emotions from his Differential Emotions Theory, Plutchik's (Plutchik 1980) eight basic emotion categories, and Mehrabian and Russell's (Mehrabian and Russell 1974) Pleasure, Arousal, and Dominance dimensions of response. Havlena and Holbrook (1986) compare these three schemes with respect to consumption experiences. Their results show that the three PAD dimensions capture more information about the emotional character of consumer experience than did Plutchik's eight categories. However, Machleit and Eroglu (2000) show that the Izard and Plutchik emotion schemes outperform the Mehrabian and Russell measure by offering a richer assessment of emotional responses to shopping experience. The different results of the two comparisons may be likely for the reason that the former specializes in emotion concerning general consumption experience, whereas the latter focuses on specific shopping contexts.

Petty et al. (1988) study the role of emotion in the Elaboration Likelihood Model of persuasion. According to this view, when consumers have high involvement to process communication, emotion will either serve as an argument or it will bias ongoing information processing activity. When consumers have low involvement, emotion may serve as a simple peripheral cue; consumers are either not willing or unable to exert a lot

of processing effort. In brief, emotion has two differential characteristics as the mediator in the process of consumer's comprehension process.

Mehrabian and Russell (1974) have concluded that emotional responses are captured by two dimensions: pleasure-displeasure and degree of arousal. Russell (1979) recommends that pleasure and arousal alone can adequately represent the range of emotion exhibited in response to environmental stimuli. In traditional retail contexts, researchers find the PAD typology without dominance dimension to be of adequate predictive value (Baker et al. 1992; Sherman et al. 1997). These studies suggest that consumers' desires to approach or avoid stimuli within an environment would be mediated by their emotional responses to the environment. Shoppers experiencing relatively high pleasure and arousal generally spend more time in a store and are more willing to make a purchase (Mehrabian and Russell 1974). It is reasonable that emotion will play a same role in digital shopping as conventional retailing.

In the context of online atmospherics, dominance may be a relevant emotional response because consumers may have more control over their shopping behaviors (Eroglu et al. 2001). For this point, the PAD scheme is used in the present research for the ease of use. In this typology, pleasure refers to the degree to which a person feels good, joyful, happy, or satisfied in a situation; arousal refers to the degree to which a person feels stimulated, active, or alert; and, dominance refers to the degree to which a person feels controlling, influential, or autonomous.

## **Involvement**

Involvement is a motivational state influenced by a person's perception of the object's relevance based on inherent needs, values, and interests (Zaichkowsky 1985), and that its major antecedents are the characteristics of the person, stimulus, and situation (Bloch and Richins 1983; Day et al. 1995).

Extant literatures have two opposite viewpoints on involvement. Sherif et al. (1965) note that highly involved persons exhibit more negative evaluations of a communication because high involvement is associated with an extended rejection. In contrast, Krugman (1965) suggest an alternative view that increasing involvement does not increase resistance to persuasion, but instead shifts the sequence of communication influence.

Petty et al. (1983) assess the effects of involvement from a third perspective that originates from the Elaboration Likelihood Model of attitude change (Petty and Cacioppo 1981). Their opinions are consistent with Holbrook and Hirschman's (1982) research indicating that highly involved consumers are likely to pursue the central route when they search for information relevant to their purpose, whereas low involvement consumers are likely to process through the peripheral route when they are more interested in hedonic and entertainment qualities.

In the context of consumer research, there are several categories of involvement: product involvement versus brand involvement, enduring involvement versus situational involvement. Product involvement has been conceptualized as two types: situational and enduring involvement. Situational involvement is transient and occurs only in the context

of a situation such as purchase time (Richins and Bloch 1986), or a temporary price reduction (Celsi and Olson 1988). In contrast, enduring product involvement is considered to be a stable state representing the consumer's personal interest in a product for long time (Laurent and Kapferer 1985).

Celsi and Olson (1988) propose a new variation of involvement – felt involvement, which is defined as a consumer's overall subjective feeling of personal relevance. According to their study, felt involvement has motivational qualities that influence not only cognitive processes such as comprehension, but also overt behaviors like shopping activities. Situational and enduring involvement are regarded as sources of felt involvement rather than as separate types of involvement. In their model, felt involvement has two broad sources: (1) the physical and social aspects of immediate environment, and (2) the intrinsic characteristics of an individual. Their results demonstrate that felt involvement may capture adequate information of consumers' attention and comprehension.

Within the field of online consumer research, Hoffman and Novak (1996) suggest situational involvement with product is more likely to result in a goal-directed behavior while enduring involvement with product is likely to lead to experiential behavior in online environment. On the Internet, the relevant involvement is site involvement, which constructs a behavioral response in stead of personality dimension (Richard 2005). Consumers with high site involvement tend to search information and explore new stimuli (Balabanis and Reynolds 2001). Yoo and Stout (2001) find that consumers with a



high level of product involvement tend to have more intention to interact with a website.

### **Need for cognition**

Cacioppo and Petty (1982) define need for cognition as a tendency of individuals to engage in and enjoy thinking, and develop a 34-item scale that becomes the definitive tool for measuring this construct (Lord and Putrevu 2006). Later, Cacioppo et al. (1984) abbreviate the scale to 18-item with comparable validity and greater efficiency and ease of administration (Lord and Putrevu 2006). A substantial stream of research has shown that NFC can be an important antecedent of attitude change (e.g., Cacioppo and Petty 1982; Cacioppo et al. 1984).

Consumers have different levels of NFC. In general, it has been suggested that high NFC individuals tend to enjoy tasks that provide opportunities to think, while low NFC individuals would tend to avoid tasks that require cognitive effort (Raman and Leckenby 1998). Haugtvedt et al. (1992) propose that attitudes of high NFC individuals are based more on an evaluation of product attributes. In contrast, low NFC individuals prefer simple peripheral cues. Bailey (1997) finds that high NFC individuals engage in more decision-making strategies than low NFC individuals. This study shows that individuals high in NFC are more thorough when judging alternatives' information, and less susceptible to situational cues than those low in NFC. These findings are consistent with Mantel and Kardes' (1999) proposition that high NFC individuals make more carefully thought-out and detail-oriented judgments, whereas low NFC individuals make

judgments on global comparisons and attitudes.

In the context of the Internet, Tuten and Bosnjak's (2001) findings suggest that need for cognition is positive related with web usage for product information. According to their results, activities entail a cognitive component which is likely to be attractive to high NFC individuals. Conversely, individuals with low NFC are prone to use the Internet for entertainment purposes.

High NFC individuals are more likely to prefer information-oriented media and a verbal over a visual processing style (Heckler et al. 1993). Because of the Internet's capacity to provide information, high NFC individuals may be likely to focus more on the quality of verbal information than on entertainment specifics like graphics and sound effects. Conversely, low NFC individuals may be more interested in symbolic cues on websites (Martin et al. 2005). Therefore, low NFC individuals may build their attitudes not on the informational content of a website, but on the attractiveness of the entertainment specifics. Martin et al. (2005) demonstrate that high NFC individuals express more favorable attitudes toward a website combining complex verbal with simple visual elements. However, low NFC individuals do not consider a website with high visual and low verbal elements more favorably than high NFC individuals.

From these results, high NFC consumers, relative to low NFC consumers, are more likely to have positive attitude toward the website as an information source. Accordingly, low NFC consumers may prefer to be interested in the website with entertainment cues.

## HYPOTHESIS

The conceptual model begins with online website cues: entertainment, informativeness, and effectiveness of information content. These factors lead to cognitive and affective responses of consumers, which in turn result in purchase intention. As a branch, the flow experience, which is influenced by attitude toward the website, contributes to purchase intention as well. Need for cognition and site involvement are classified as moderating personal variables.

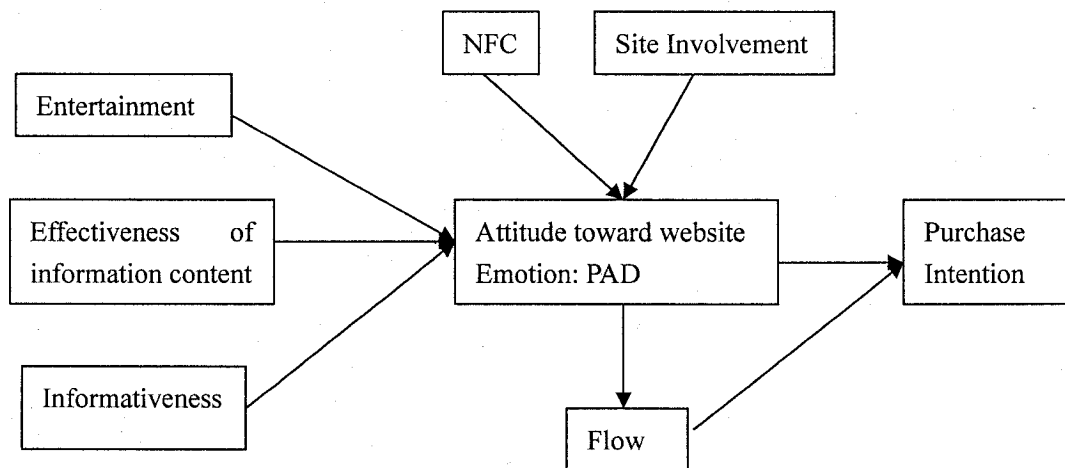


Figure 1. The model of consumer behavior on the Internet

Petty et al. (1983) suggest that there are two different persuasion routes of information processing in the Elaboration Likelihood Model. Consumers with low involvement and NFC are either not willing or unable to exert cognitive processing for the peripheral route in which hedonic and entertainment qualities are determining factors of persuasion effects (Holbrook and Hirschman 1982; Cho 1999).

On the Internet, entertainment may be regarded as the extent to which consumers enjoy a website. Hedonic websites may provide entertainment cues like visual and musical elements that are important in the process of the peripheral route. Novak et al. (2000) indicate that compelling online consumer experiences are positively correlated with recreational and experiential uses of the Internet but negatively correlated with work-oriented activities. Thus, we assume that:

H1: When consumers are browsing the website, entertainment positively relates to (1) attitude toward the website, (2) emotion, and (3) purchase intention.

According to the Elaboration Likelihood Model, the central route requires high effort scrutiny of attitude-relevant information, and the peripheral route is influenced by contextual factors (Petty and Cacioppo 1981). Consumers with high involvement and NFC are willing or able to exert considerable cognitive processing effort for central route in which persuasion effects depend on relevant product information. Utilitarian websites may provide relevant product information like comparisons with similar products which is important for purchasing experience and credence products.

Sheehan and Doherty (2001) reveal that websites are used as a part of an integrated communication strategy to serve higher objectives such as creating desire and action. This suggests that the ability of a website to communicate information effectively is regarded as one of the more important predictors of website effectiveness (Chakraborty et al. 2003). Therefore, effectiveness of information content and informativeness may serve

as central cues in the Elaboration Likelihood Model.

Richard (2005) identifies that the effectiveness of information content and informativeness positively relate to attitude toward the website. Singh and Dalal (1999) suggest that web homepages can be evaluated using the conventional attitude measures.

Thus, we assume that:

H2: When consumers are browsing the website, effectiveness of information content positively relates to (1) attitude toward the website, (2) emotion, and (3) purchase intention.

H3: When consumers are browsing the website, informativeness positively relates to (1) attitude toward the website, (2) emotion, and (3) purchase intention.

Stevenson et al. (2000) introduce the concept of attitude toward the website and shows how it can play an important role in advertising effectiveness as measured by  $A_{ad}$ , attitude toward the brand, and purchase intention. Chen and Wells (1999) propose a reliable and valid scale that measures attitude toward the website: entertainment, informativeness, and organization. Chen et al. (2002) prove that the three-item scale accounts for more than 80 percent of the variance in attitude toward the website.

According to Wu (2000), perceived interaction have positive influences on attitude toward the website, attitude toward the brand, and purchase intention. Yoo and Stout (2001) observe that consumers' intention to interact with a website positively influenced attitude toward the website and purchase intention. Richard and Chandra (2005) and

Richard (2005) find that site involvement positively relates to attitude toward the website and purchase intention.

Shoppers experiencing relatively high pleasure and arousal generally spend more time in a store and are more willing to make a purchase (Mehrabian and Russell 1974). It is reasonable that emotion will play a same role in consumers' online shopping as conventional retailing. Eroglu et al. (2001) propose that consumers who experiencing positive affect will form positive attitude toward the online shopping process. Luna et al. (2002) suggest that positive attitude toward the website leads to a higher likelihood of achieving the flow. Trevino and Webster (1992) empirically illustrate that attitudes toward communications technology are positively associated with the achievement of the flow. Furthermore, Richard and Chandra (2005) indicate challenge, skills, and interactivity are positively related to attitude toward the website. Thus, we assume that:

H4: When consumers are browsing the website, attitude toward the website positively relates to (1) need for cognition, (2) site involvement, (3) the flow experience, and (4) purchase intention.

Regarding the characteristics of three product types, consumers can evaluate the attributes of search products more easily with the readily available product attribute information. When purchasing experience and credence products, consumers will have higher concerns because the product attribute information is more difficult or costly to acquire. In other words, product attribute information provided by the website is expected

to be more important for experience and credence products than search products. Hsieh et al. (2005) demonstrate that financial, social and structural bonds have different impacts on strengthening consumer commitment for three types of products. Due to the scarcity of literature regarding how consumers pursue information search for search, experience, and credence products on the Internet, we assume that:

H5: The search-experience-credence product classification is a salient framework in the context of online shopping.

## METHOD

This section contains the pretest of distinguishing search, experience, and credence product and the main study. Firstly, the respondent recruitment, the data collection methods, the survey instruments, and the sample characteristics are reported. Secondly, the operationalization of the observed and latent variables, the scale development, and the statistical data analyses of the hypotheses are described.

### Pretest

Previous research has empirically investigated goods/services according to search, experience, and credence product classification framework (Iacobucci 1992). However, her study was accomplished in the physical environment. Thus, a pretest was needed to classify online products to the search-experience-credence classification. The pretest study employed products that are most representative of the search-experience-credence product framework from previous research (e.g., Hsieh et al. 2005; Girard 2005).

**Search product:** book, clothing, furniture, garden supplies, hardware, movie theater,  
sporting equipment, ticket service, music CD

**Experience product:** hair salon, hotel, information service, liquor, restaurant, tobacco,  
telecommunication, vacation, cosmetics, MP3 player, laptop

**Credence product:** education, financial investments, health food, health supplement,  
auto insurance, legal service, pest control, real estate agency, hair  
growth cream,



anti-wrinkle cream

Questionnaires were distributed to a convenience sample of 30 university students. Respondents were asked to classify ten products and/or services from the list above in line with definition of the search, experience, and credence products. The same product or service was not permitted to be classified into more than one product class. The six most selected product and/or services are listed in table 1. On the basis of the criteria that the product/service is easily found on the Internet and is familiar to online shoppers, we chose book, restaurant, and health supplement as the representatives of the search-experience-credence product framework, respectively.

Table 1. Results of product classification

Search		Experience		Credence	
Clothing	23*	Cosmetics	17	Financial investments	15
Ticket service	20	Hair salon	16	Legal service	13
Music CD	19	Hotel	14	Health supplement	12
Book	17	Restaurant	13	Auto insurance	10
Furniture	14	Vacation	10	Education	10
Sporting equipment	12	Liquor	8	Hair growth cream	9

\* The frequency the respondents choose the product.

### Websites

Huang (2005) provides a scale of web performance consisting of utilitarian and hedonic value. The utilitarian aspect is the positive evaluative outcome of a website's

informative attributes. Utilitarian performance results from web users visiting the site for necessity rather than recreation. The hedonic aspect is the positive evaluation outcome of a website entertainment attributes. Based on this scale, the hedonic website is defined as colorful, entertaining, enjoyable, interesting, imaginative, flashy, appealing, exciting, and fascinating. The utilitarian website refers to the mix of texts and graphs, which is informative, intelligent, knowledgeable, and resourceful.

Using these criteria, three researchers participated in the selection of websites. Table 2 reports the results of the website selection.

Table2. The combination of product and website

	Website 1	Website 2
<b>Search product</b>	www.comics.com	www.booksamillion.com
<b>Experience product</b>	www.hardees.com	www.borishbistro.com
<b>Credence product</b>	www.naturemade.com	www.flintstonevitamins.com

### Sample and data collection

A sample of 281 university students was recruited for this study from different undergraduate classes at a university. An explanation letter was sent to the selected respondents, along with the link to the questionnaire. The respondents were randomly assigned to one of the six websites. After careful review, 245 valid respondents were retained by eliminating 36 due to empty data fields. The successful rate was 87.2%. Each respondent was given \$5 for the completion of the questionnaire. In addition, all

respondents were eligible to win two cash awards (\$50) on the basis of a random selection of the email address of all respondents. The profile of respondents is shown in Table 3 and 4.

Table 3. Profile of respondents (N=245)

<b>Gender</b>	
Male	85(34.7%)
Female	160(65.3%)
<b>Age</b>	
18-24	136(55.7%)
25-34	81(33.2%)
35-44	26(10.7%)
45-54	1(0.4%)
65 and more	0
<b>Work status</b>	
Part-time job	68(27.9%)
Full-time job	31(12.7%)
Retired	0
Not working	6(2.5%)
Student	140(57.1%)

Table 4. Experience in Internet surfing per week (hrs)

	0-5	6-10	11-20	21-30	31+
<b>Internet experience</b>	28(11.5%)	50(20.5%)	71(29.1%)	59(24.2%)	35(14.3%)
<b>Browsing</b>	131(53.7%)	72(29.5%)	26(10.7%)	13(5.3%)	1(0.4%)
<b>Personal research</b>	153(62.7%)	72(29.5%)	10(4.1%)	7(2.9%)	1(0.4%)
<b>Professional research</b>	114(46.7%)	91(37.3%)	33(13.5%)	3(1.2%)	2(0.08%)
<b>Entertainment</b>	161(66%)	43(17.6%)	19(7.8%)	15(6.1%)	5(2%)

The questionnaire began with items measuring antecedents of the flow, need for cognition, and Internet experience. After, respondents were required to browse the website before continuing to complete the questionnaire concerning the measurement variables. The last part of the questionnaire was questions measuring respondents' demographic information. The questionnaire were created in HTML format and sent to the potential respondents individually. Thus, a link was made with the survey software which permits to gather all the questionnaires filled out by the respondents.

### **Measurement**

The appropriate measures were chosen from previously developed scales. Mehrabian and Russell's (1974) PAD scale was modified slightly to reflect current knowledge regarding adjust for the Internet's specific characteristics. The need for cognition scale had eight items derived from 18-item scale by Cacioppo et al. (1984). The flow scale was operationalized with four items from Hoffman and Novak (1996). The scales of entertainment and informativeness had five and four items, respectively, from Chen and Wells (1999). The 10-item scale of effectiveness of information content (Ranganathan and Ganapathy 2002) was adapted to a 5-item scale in the research context. Attitude toward the website used the scale derived from Chen and Wells (1999). The purchase intention scale was from Dodds et al. (1991) and was operationalized as four items. The 5-point Likert scale was used to indicate the respondent's agreement or disagreement on each closed-ended question.

## RESULTS

### **Exploratory factor analysis**

Exploratory factor analysis was applied to assess the underlying dimensions of the model. The exploratory factor analysis provided 11 factors with eigenvalue greater than 1.0. Each factor loading was greater than 0.40. The percentage of variance differed between 53.1% of need for cognition and 85.2% of purchase intention. To ensure that the items for each of the factors were internally related, we assessed the reliability of all dimensions by using Cronbach's coefficient alpha. Those for each of the factors (as shown in Table 5) was much higher than the threshold level of 0.60 which is regarded as appropriate for exploratory factor analysis, varying between 0.773 of arousal and 0.960 of site involvement.

Table 5. Exploratory factor analysis

Constructs	Items	% of variance	Factor loadings	Cronbach's alpha
Need for cognition	Like a situation with a lot of thinking.	53.1	0.796	0.869*
	Prefer complex to simple problems.		0.761	
	Thinking is my idea of fun.		0.820	
	Like tasks that require large thought.		0.851	
	Prefer life to be filled with puzzles.		0.711	
	A task with a lot of mental effort.		0.597	
	Learn new ways to think.		0.704	
Pleasure	Unhappy/Happy	69.6	0.794	0.852
	Annoyed/Pleased		0.881	
	Dissatisfied/Satisfied		0.888	
	Despairing/Hopeful		0.766	
Arousal	Unaroused/Aroused	59.6	0.757	0.773
	Relaxed/Stimulated		0.786	
	Calm/Excited		0.823	
	Sleepy/Wide-awake		0.717	
Dominance	Control over visiting experiences.	70.5	0.801	0.895
	Choose freely what want to see		0.862	
	Control over what could do on this site.		0.848	
	Actions decide the kind of experiences.		0.812	
	Control in online information searches.		0.872	
Entertainment	This site is fun to browse	75.9	0.895	0.919
	This site is exciting		0.893	
	This site is imaginative		0.896	
	This site is entertaining		0.911	
	This site is flashy		0.749	
Effectiveness of information content	The information is convenient.	67.0	0.820	0.876
	The information is accurate.		0.852	
	The information is up-to-date.		0.862	
	The information is complete.		0.787	
	The information is relevant.		0.769	
Informative	This site is informative.	81.8	0.893	0.926
	This site is resourceful.		0.937	
	This site is useful.		0.866	
	This site is knowledgeable.		0.920	

Table 5 (continued). Exploratory factor analysis

Constructs	Items	% of variance	Factor loadings	Cronbach's alpha
Site involvement	Unimportant /Important	83.4	0.915	0.960
	Irrelevant/relevant to my needs		0.893	
	Not worth/worth remembering		0.898	
	Not worth/worth paying attention to		0.900	
	Does not matter to me/Matters to me		0.939	
	Insignificant/Significant		0.932	
Flow	Totally absorbed by this site	69.7	0.805	0.855
	Time seems to go very quickly		0.857	
	Forget about immediate surroundings		0.833	
	Not conscious of how long surfing		0.843	
Attitude toward the website	This site is bad/good	81.8	0.886	0.944
	Dislike/like this site.		0.947	
	React unfavorably/favorably toward site.		0.936	
	Have negative/positive toward this site.		0.886	
	This site is unattractive/attractive.		0.864	
Purchase intention	The likelihood of purchasing is high.	85.2	0.913	0.942
	The probability buying product is high.		0.938	
	My willingness to buy product is high.		0.935	
	I intend to purchase this product.		0.907	

\* Cronbach's alpha based on standardized items.

### Test of hypotheses

While it would be ideal to test all of the hypothesized relationships simultaneously by using structural equation model, we chose simple statistical methods to test the hypotheses for keeping the analyses as simple as possible. We used the mean of the measure items to form a scale variable for each factor.

H1 was tested by examining the correlations between entertainment and flow, attitude toward the website, and purchase intention. As shown in table 7, there was strong positive association in each case. This supports H1. Thus, it seems that the more

entertaining a website is, the more it helps improve attitude toward the website, emotion, and purchase intention.

Table 6. Correlations between entertainment and attitude toward the website, emotion, and purchase intention

	Entertainment	Ast	Pleasure	Arousal	Dominance	Purchase intention
Entertainment	1.000					
Ast	.677**	1.000				
Pleasure	.582**	.665**	1.000			
Arousal	.552**	.524**	.582**	1.000		
Dominance	.307**	.337**	.344**	.204**	1.000	
Purchase intention	.318**	.365**	.341**	.389**	.060	1.000

\*\* Correlation is significant at the 0.01 level (2-tailed).

H2 and H3 were tested by using correlation analysis as well (see Table 8 and 9). H3 is supported because there is significant relationship between effectiveness of information content and attitude toward the website ( $\rho < .01$ ), emotion ( $\rho < .01$ ) and purchase intention ( $\rho < .01$ ). The results also supports H4 ( $\rho < .01$ ). Therefore, the increase of degree of effectiveness of information content and informativeness seems to come with more positive attitude toward the website, more positive emotion and more possible purchase intention.



Table 7. Correlations between effectiveness of information content and attitude toward the website, emotion, and purchase intention

	Effectiveness of information	Ast	Pleasure	Arousal	Dominance	Purchase intention
Effectiveness of information	1.000					
Ast	.457**	1.000				
Pleasure	.439**	.665**	1.000			
Arousal	.341**	.524**	.582**	1.000		
Dominance	.446**	.337**	.344**	.204**	1.000	
Purchase intention	.335**	.365**	.341**	.389**	.060	1.000

\*\* Correlation is significant at the 0.01 level (2-tailed).

Table 8. Correlations between informativeness and attitude toward the website, emotion, and purchase intention

	Informative	Ast	Pleasure	Arousal	Dominance	Purchase intention
Informative	1.000					
Ast	.380**	1.000				
Pleasure	.361**	.665**	1.000			
Arousal	.290**	.524**	.582**	1.000		
Dominance	.200**	.337**	.344**	.204**	1.000	
Purchase intention	.539**	.365**	.341**	.389**	.060	1.000

\*\* Correlation is significant at the 0.01 level (2-tailed).

After the positive correlations were identified, we further investigated these relationships by linear regression. The model was divided into three parts. The first part examined the predictors of attitude toward the website; the second part measured the relationship of attitude toward the website and emotion with the flow experience; the third part tested the effects of attitude toward the website, emotion, and the flow experience on purchase intention.

Regarding part one of the model, entertainment, effectiveness of information content, informativeness, need for cognition, and site involvement were used as the predictors of attitude toward the website in a regression analysis. The three out of five predictors had significant effects on attitude toward the website, specifically, entertainment ( $\beta=.489$ ,  $\rho<.001$ ), effectiveness of information content ( $\beta=.206$ ,  $\rho<.01$ ), and site involvement ( $\beta=.238$ ,  $\rho<.001$ ); while need for cognition and informativeness had negative effects on attitude toward the website, although they were not significant. Thus, the higher level of entertainment, effectiveness of information content, and informativeness were associated with the more positive attitude toward the website. It was worth noting that 53.5 percent of the variance of attitude toward the website was explained by the predictors. From the results, informativeness and need for cognition did not positively relate to attitude toward the website. Therefore, H3 and H4 were partly supported.

The second part also took advantage of linear regression to analyze the influence of attitude toward the website and emotion on the flow experience. As expected, attitude toward the website had significant effects on the flow ( $\beta=.381$ ,  $\rho<.001$ ). Emotion

significantly influenced the flow experience as well. Specifically, pleasure ( $\beta=.323$ ) and arousal ( $\beta=.371$ ) were significant at the 0.001 level while dominance ( $\beta=.115$ ) had significance of 0.1 level. Combined, the four variables accounted for 49.9 percent of the variance in the flow experience. Overall, it indicated that the more positive attitude toward the website and emotion, the higher likelihood of the flow experience.

Part three of the model involved two associations. The first association was that attitude toward the website and emotion directly influenced purchase intention. The other path was that these two variables affected purchase intention via the flow as a mediator. The first path was tested by means of regression with attitude toward the website and emotion as the predictors and purchase intention as the criterion variable. As linear regression analysis showed, the relationship was significant such that attitude toward the website was positively related to purchase intention ( $\beta=.393$ ,  $\rho<.001$ ). Two components of emotion had positive effects on purchase intention (pleasure  $\beta=.258$ ,  $\rho=.01$ ; arousal  $\beta=.408$ ,  $\rho<.001$ ) except that dominance had a negative but insignificant relationship with purchase intention. Due to previous research (Luna et al. 2002), it was expected that there was a positive relationship between flow and purchase intention. Indeed, results showed that the flow positively predicted purchase intention ( $\beta=.482$ ,  $\rho<.001$ ). Consequently, this suggested that the predictors except dominance have a very strong, positive relationship with purchase intention.

By linear regression analysis, H4 was partly supported that attitude toward the website positively related to site involvement, flow and purchase intention. The positive

relationship with need for cognition was not supported.

Figure 2 shows the overall results of testing the hypotheses for the whole data set, no matter what types of products.

Hypothesis		Test statistics	Results
H1a	Entertainment positively relates to attitude toward the website.	$\beta=.489, \rho<.001$	Supported
H1b	Entertainment positively relates to emotion.	Pleasure: $r=.582, \rho<.01$ Arousal: $r=.552, \rho<.01$ Dominance: $r=.307, \rho<.01$	Supported
H1c	Entertainment positively relates to purchase intention.	$r=.318, \rho<.01$	Supported
H2a	Effectiveness of information content positively relates to attitude toward the website.	$\beta=.206, \rho<.01$	Supported
H2b	Effectiveness of information content positively relates to emotion.	Pleasure: $r=.439, \rho<.01$ Arousal: $r=.341, \rho<.01$ Dominance: $r=.446, \rho<.01$	Supported
H2c	Effectiveness of information content positively relates to purchase intention.	$r=.335, \rho<.01$	Supported
H3a	Informativeness positively relates to attitude toward the website.	$\beta=-.038, \rho>.1$	Not supported
H3b	Informativeness positively relates to emotion.	Pleasure: $r=.361, \rho<.01$ Arousal: $r=.290, \rho<.01$ Dominance: $r=.200, \rho<.01$	Supported
H3c	Informativeness positively relates to purchase intention.	$r=.539, \rho<.01$	Supported
H4a	Attitude toward the website positively relates to need for cognition.	$\beta=-.009, \rho>.1$	Not supported
H4b	Attitude toward the website positively relates to site involvement.	$\beta=.238, \rho<.001$	Supported
H4c	Attitude toward the website positively relates to the flow experience.	$\beta=.381, \rho<.001$	Supported
H4d	Attitude toward the website positively relates to purchase intention.	$\beta=.393, \rho<.001$	Supported

Figure 2. Results of testing hypotheses

H5 was tested by two steps. Firstly, the data set was divided into three subgroups for search, experience, and credence products. The overall model was further tested in terms of search, experience, and credence products, respectively. Secondly, the differences of the online cues across product types were verified.

Using the correlation analysis, table 9 to 11 show the correlations of entertainment, effectiveness of information content, and informativeness with attitude toward the website, emotion, flow, and purchase intention.

Table 9. Correlations between entertainment and attitude toward the website, emotion, and purchase intention for three product classes

	Entertainment	Ast	Pleasure	Arousal	Dominance	Purchase intention
Entertainment	1.000					
	.746**(a)					
Ast	.713**(b)	1.000				
	.566**(c)					
	.547**	.678**				
Pleasure	.619**	.682**	1.000			
	.559**	.645**				
	.586**	.627**	.615**			
Arousal	.609**	.580**	.713**	1.000		
	.388**	.331**	.327**			
	.254*	.421**	.425**	.319**		
Dominance	.377**	.275**	.289**	.186	1.000	
	.239*	.378**	.344**	.051		
	.150	.352**	.289*	.462**	.225	
Purchase intention	.448**	.315**	.407**	.372**	-.058	1.000
	.282*	.463**	.308**	.326**	.016	

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

a: search products

b: experience products

c: credence products

Table 10. Correlations between effectiveness of information content and attitude toward the website, emotion, and purchase intention for three product classes

	Effectiveness of information	Ast	Pleasure	Arousal	Dominance	Purchase intention
Effectiveness of information	1.000					
	.423**(a)					
Ast	.445**(b)	1.000				
	.513**(c)					
	.368**	.678**				
Pleasure	.458**	.682**	1.000			
	.493**	.645**				
	.361**	.627**	.615**			
Arousal	.352**	.580**	.713**	1.000		
	.307**	.331**	.327**			
	.359**	.421**	.425**	.319**		
Dominance	.586**	.275**	.289**	.186	1.000	
	.320**	.378**	.344**	.051		
	.463**	.352**	.289*	.462**	.225	
Purchase intention	.308**	.315**	.407**	.372**	-.058	1.000
	.284*	.463**	.308**	.326**	.016	

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

a: search products

b: experience products

c: credence products

Table 11. Correlations between informativeness and attitude toward the website, emotion, and purchase intention for three product classes

	Informative	Ast	Pleasure	Arousal	Dominance	Purchase intention
Informative	1.000					
	.503**(a)					
Ast	.312**(b)	1.000				
	.399**(c)					
	.404**	.678**				
Pleasure	.381**	.682**	1.000			
	.342**	.645**				
	.559**	.627**	.615**			
Arousal	.229*	.580**	.713**	1.000		
	.180	.331**	.327**			
	.334**	.421**	.425**	.319**		
Dominance	.203*	.275**	.289**	.186	1.000	
	.129	.378**	.344**	.051		
	.708**	.352**	.289*	.462**	.225	
Purchase intention	.493**	.315**	.407**	.372**	-.058	1.000
	.519**	.463**	.308**	.326**	.016	

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

a: search products

b: experience products

c: credence products

On the basis of the verified positive correlations, we tested these relationships with regard to the three parts of the model. For search products, the four pairs of relationships – entertainment and purchase intention, effectiveness of information content and attitude toward the website, informativeness and attitude toward the website, attitude toward the website and need for cognition – were not supported. For experience products, H1 to H4 were supported except that attitude toward the website insignificantly positively related to need for cognition. For credence products, the relationships between

informativeness with attitude toward the website and emotion were not significant. In addition, attitude toward the website insignificantly related to need for cognition and site involvement. Figure 3 shows the results of the hypotheses for three product types.

	Search		Experience		Credence	
H1a	$\beta=.519, p<.001$	S	$\beta=.608, p<.001$	S	$\beta=.396, p<.001$	S
H1b	Pleasure: $r=.547, p<.01$ Arousal: $r=.586, p<.01$ Dominance: $r=.254, p<.05$	S	Pleasure: $r=.619, p<.01$ Arousal: $r=.609, p<.01$ Dominance: $r=.377, p<.01$	S	Pleasure: $r=.559, p<.01$ Arousal: $r=.388, p<.01$ Dominance: $r=.239, p<.05$	S
H1c	$r=.150, p>.1$	NS	$r=.448, p<.01$	S	$r=.282, p<.05$	S
H2a	$\beta=.118, p>.1$	NS	$\beta=.206, p<.1$	S	$\beta=.333, p<.5$	S
H2b	Pleasure: $r=.368, p<.01$ Arousal: $r=.361, p<.01$ Dominance: $r=.359, p<.01$	S	Pleasure: $r=.458, p<.01$ Arousal: $r=.352, p<.01$ Dominance: $r=.586, p<.01$	S	Pleasure: $r=.493, p<.01$ Arousal: $r=.307, p<.01$ Dominance: $r=.320, p<.01$	S
H2c	$r=.463, p<.01$	S	$r=.308, p<.01$	S	$r=.284, p<.05$	S
H3a	$\beta=-.059, p>.1$	NS	$\beta=-.264, p<.01$	S	$\beta=.106, p>.1$	NS
H3b	Pleasure: $r=.404, p<.01$ Arousal: $r=.559, p<.01$ Dominance: $r=.334, p<.01$	S	Pleasure: $r=.381, p<.01$ Arousal: $r=.229, p<.05$ Dominance: $r=.203, p<.05$	S	Pleasure: $r=.342, p<.01$ Arousal: $r=.180, p<.1$ Dominance: $r=.129, p<.1$	NS
H3c	$r=.708, p<.01$	S	$r=.493, p<.01$	S	$r=.519, p<.01$	S
H4a	$\beta=.021, p>.1$	NS	$\beta=.017, p>.1$	NS	$\beta=.053, p>.1$	NS
H4b	$\beta=.332, p<.001$	S	$\beta=.289, p<.01$	S	$\beta=.145, p>.1$	NS
H4c	$\beta=.563, p<.001$	S	$\beta=.334, p<.001$	S	$\beta=.310, p<.01$	S
H4d	$\beta=.422, p<.01$	S	$\beta=.311, p<.01$	S	$\beta=.512, p<.001$	S

Figure 3. Results of testing hypotheses for three product classes



After investigating the general model in terms of three product classes, H5 was tested by means of ANOVA. The analysis of variance revealed that informativeness and site involvement significantly differed across the three product types. Informativeness had a significant F-test value at .05 level ( $F_{2, 243} = 3.390$ ). Informativeness was significantly more important for credence products than experience and search products. The difference of site involvement was significant at .05 level ( $F_{2, 243} = 3.059$ ). Therefore, the search-experience-credence product classification seems to be a valid framework in the context of online shopping.

## DISCUSSION

From the results, we found that when a website is entertaining, consumers may develop more positive attitude toward the website and emotion, and build more possible purchase intention. This type of consumers is considered as browsers (Richard 2005). Browsers are either not willing or unable to exert a lot of processing effort, and follow the peripheral route dependent on attractive sources, music and visuals. Their behaviors are nondirected and experiential (Novak et al. 2003), which is characterized as intrinsic motivation, enduring involvement, affective, etc. Bruner and Kumar (2000) suggest that the effectiveness of a website depends on whether visitors to the website feel that it can engage their attention by being fun or entertaining. When attracted by entertaining elements, consumers become more pleased and arousal to browse the website. Stern and Zaichowsky (1991) find that consumers, who regard an advertisement as entertaining, are more likely to intend to purchase the brand. Richard (2005) proves that entertainment directly affect purchase intention. Similarly, we demonstrate that entertainment has positive association with purchase intention.

Okazaki and Rivas (2002) report empirical evidence demonstrating that the Internet contains a higher level of information and it is a highly involved medium, primarily because it can be viewed as a combination of both electronic and print media (Hoffman and Novak 1996; Yoon 2000). Effectiveness of information content plays the role as a cue of the central route. When a website is information effective, consumers may have positive emotion and attitude toward the website, and more possibly buy the product.

Richard (2005) shows that effectiveness of information content influence purchase intention directly and affects attitude toward the website mediating by exploratory behavior. According to the Elaboration Likelihood Model, the more a website is information effective, the more possible consumers employ the central route. These consumers are defined as information seekers. When information content meets information seekers' requirements, namely effectiveness and relevance, consumers may generate more favorable affect (Petty et al. 1988). Thus, Consumers may develop more positive emotion toward the website.

We found a negative but insignificant relationship between informativeness and attitude toward the website, while Richard (2005) does demonstrate the relationship. The reason seems to be that informativeness is highly correlated with effectiveness of information content and site involvement. Consumers tend to develop less positive attitude toward the website in line with the increase of the informativeness of the website. One could spend less time for obtaining useful information by means of less cognitive effort. In the Elaboration Likelihood Model, consumers exert the central route with less cognitive effort tend to form negative attitude. Our results suggest that informativeness positively relates to emotion. Consumers consider informativeness as a major benefit of being exposed to advertising or any type of commercial message (Ducoffe 1996). The more informative a website is perceived to be, the greater are the values of the website. When a website is useful and resourceful, consumers experience relatively high pleasure and arousal and are more willing to make a purchase than are displeased or unaroused

counterparts (Babin and Darden 1995).

A negative but weak relationship was discovered between attitude toward the website and need for cognition. Richard (2005) proves that NFC negatively relates to attitude toward the website. High NFC consumers tend to enjoy the tasks that provide opportunities to think. The nature of the Internet may afford high NFC consumers with more search activities than low NFC consumers. To sum up, high NFC consumers have high requirements in terms of the informativeness of the website. Thus, for the same level of informativeness, High NFC consumers may have lower attitude toward the website.

Site involvement has a positive relationship with attitude toward the website. With high involvement, the consumer is likely to conduct a more active information search. Consumers may be more willing to seek out detailed information as well as opportunities to acquire information through product trial experiences (Beatty and Smith 1987). The high involvement nature of interactive medium is closely related to the high level of information content in web pages (Okazaki and Rivas 2002). High site involvement may lead to positive attitude toward the website, and thus result in positive purchase intention. If it is a high involvement purchase decision (e.g., credence product), the website might need to provide more extensive amounts of information than if it is a low involvement decision (e.g., search product) (Palmer and Griffith 1998). Highly involved consumers are more interested in central stimuli (e.g. product information) than peripheral cues.

One contribution is that results show that attitude toward the website has a strong, positive relationship with the flow experience. Consumers, who have positive attitude

toward the website, may be inclined to lose track of other activities unrelated to their website navigation (Luna et al. 2002), so as to induce the flow. We should note that attitude toward the website may not be the only direct antecedent of flow, and flow may not always occur when consumers have positive attitude toward the website.

We found two paths leading to purchase intention. One is that attitude toward the website is found to be a good predictor for purchase intention. It has an intermediary role to play by mediating a great deal of the influence of entertaining, informativeness, and effectiveness of information content on purchase intention. The other is that the flow experience positively leads to purchase intention. The flow experience may make consumers linger on and revisit a website, increasing the possibility of buying the product from the website.

Because of the prominent differences in the definitions of the three product classes, results show differences in importance consumers place on informativeness and site involvement. Informativeness is more important for credence products than experience and search products. Since information about relevant product attributes is easily available for search products, the level of importance placed on informativeness for search products is the lowest. Site involvement differs significantly across three product classes. The needs and preferences of consumers differ in terms of product attribute information for three product classes. Moreover, because of the reduced availability of product attribute information and increasing level of difficulty or cost involved in obtaining information, the level of site involvement is different among search, experience,

and credence products. Girard (2005) finds that time risk, financial risk and psychological risk are different for the three product types. These risks influence the importance consumers place on informativeness and the level of site involvement.

## CONCLUSIONS AND IMPLICATIONS

The primary focus of this research is to investigate whether the search-experience-credence product classification has different performances on the utilitarian and hedonic websites. Based on the literature review, this research set forth the following three research questions:

- (1) How does the role of the Internet play as an information source on the continuum of the search-experience-credence product classification?
- (2) How do the specific factors influence the information search on the Internet, for example, emotion and need for cognition?
- (3) Is the search-experience-credence product framework valid in the context of online shopping?

### Conclusions

The findings of testing hypotheses 1 through 3 provide adequate support concluding that entertainment and effectiveness of information content positively relate to attitude toward the website and purchase intention. These findings are similar to previous research, for instance, Richard (2005). Results also indicate informativeness has a weak, negative relationship with attitude toward the website, and a positive association with purchase intention. More importantly, we prove that the three online environment cues positively relate to emotion.

To test the second research question, hypothesis 4 was tested. The findings reveal

the relationship between attitude toward the website and need for cognition and site involvement, respectively (Richard 2005; Yoo and Stout 2001). We also verify that attitude toward the website positively affect purchase intention (Bruner and Kumar 2000). In addition, we empirically replicate the relationship between attitude toward the website and the flow experience in different context (Luna et al. 2002).

The test of hypothesis 5 shows the evidence of the third research question. The hypothesized model is verified for three product classes respectively. Moreover, significant differences found in informativeness and site involvement across product classes imply that product classes influence consumer online shopping. Specifically, informativeness is more important for credence product than experience and search products. Site involvement differs significantly for the increasing level of difficulty and cost for obtaining product attribute information.

### **Implication**

On the Internet, consumers have full control over choice of websites to visit and the information they seek. Unlike the physical retail environment, consumers surfing on the Internet can effortlessly move from one webpage to the next, or from one website to another. This research provides a theoretical framework for search-experience-credence product framework on the Internet with attitude toward the website as a key variable. It is important to understand how initial experiences (e.g., entertainment) may influence subsequent experiences (e.g., flow).



This research validates the flow experience in a salient product framework. It helps in the development of a coherent conceptualization of the flow for the online activities. The correlation of attitude toward the website and flow is tested to facilitate the research of antecedents of the flow. Besides, combining the flow with the model of consumer behavior make it clear that flow is the antecedent of online approach behavior.

Nowadays, marketers should know how they might use the Internet to gain or sustain competitive advantages. In addition, marketers should know how to respond to competitors' effort to use the Internet as a strategic medium. However, a number of factors are beyond control. This research helps marketers to know which factors are controllable and which are uncontrollable. It has begun to implicate the path that shows marketers some elements can be adjusted based on market research about the target audience. For example, results show that consumers seem to prefer entertaining cues. Marketers should arrange some proper entertaining elements to the website to increase the positive attitude of consumers.

The research may prompt marketers to conduct online marketing and advertising strategy from consumer perspective. It becomes critical to know in advance how actual website elements combined with search-experience-credence product framework would be perceived by the targeted consumers. Moreover, this is important for ongoing assessment of the website. In any case, as with any other marketing medium, marketers must base their communication strategies on their knowledge of the search-experience-credence product framework.

## **Limitations and future research**

As any other research, this research has some limitations. Using students to test the model restricts the generalizability of the results. Replication with a more representative sample is desirable. As with small samples of students, the statistical analysis may not detect statistically significant differences, which in fact exist in the population. A broader sample from a larger number of profession categories should be obtained to make the conclusions more comprehensive.

This investigation examines only a limited part of online communication. Future research should include other dimensions so as to provide a clearer picture of online communication. In most academic research and marketing communication, no distinction has been explicitly made among the product framework. Recognizing the subtle difference among three product types might shed light on interactive marketing communication.

Mueller (1991) points that advertising content is likely to be influenced by the relative importance of the purchase decision: product involvement. Future research should study the influence of product involvement on the product framework. It seems that product involvement is an important moderator because it has different levels for search-experience-credence framework. In addition, the relationship between product involvement and site involvement should be investigated. Since the enhanced risks of the purchase of experience/credence products, future research should also study how to transform an experience/credence product to a search product by employing online

environmental cues.

Many early and traditional business models are applied to implement current consumption activities in an online environment. Test of the validity of these models based on search-experience-credence product framework is meaningful. Continued research on the contrast between entertaining and informative elements of a website is likely to further enhance consumer researchers' understanding of the fundamentals of compelling online environment.

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## APPENDIX A

### CONSENT TO PARTICIPATE IN

#### *CONSUMER BEHAVIOR ON THE INTERNET: INVESTIGATING SEARCH, EXPERIENCE, AND CREDENCE PRODUCT CLASSIFICATION*

This is to state that I agree to participate in a program of research being conducted by Zhikun Wu of Department of Marketing of Concordia University, at (514)747-2054 or by e-mail at [zhiku\\_wu@jmsb.concordia.ca](mailto:zhiku_wu@jmsb.concordia.ca).

#### **A. PURPOSE**

I have been informed that the purpose of the research is as follows: the purpose is to do an in-depth study of consumer behavior as to when consumers obtain information of the search-experience-credence products on the utilitarian websites versus hedonic websites.

#### **B. PROCEDURES**

All the recipients who agree to participate in the research will be asked to fill out a questionnaire which takes fifteen to twenty minutes. Before filling out questionnaires, participants need to browse several utilitarian/hedonic websites.

No personal identification data will be collected. The participants will be assured for anonymity and confidentiality. Subjects are free to discontinue the survey at any point of the questionnaire. Only the researchers have access to the collected data.

#### **C. RISKS AND BENEFITS**

There are no risks for participation because no personal identification data will be collected. The results will be based only on aggregated data, and individual responses will be kept confidential and anonymous.



**D. CONDITIONS OF PARTICIPATION**

- I understand that I am free to withdraw my consent and discontinue my participation at anytime without negative consequences.
- I understand that my participation in this study is confidential.
- I understand that the data from this study may be published.

I HAVE CAREFULLY STUDIED THE ABOVE AND UNDERSTAND THIS AGREEMENT. I FREELY CONSENT AND VOLUNTARILY AGREE TO PARTICIPATE IN THIS STUDY.

NAME (please print) \_\_\_\_\_

SIGNATURE \_\_\_\_\_

If at any time you have questions about your rights as a research participant, please contact Adela Reid, Research Ethics and Compliance Officer, Concordia University, at (514) 848-2424 x7481 or by email at [areid@alcor.concordia.ca](mailto:areid@alcor.concordia.ca).

## APPENDIX B

### QUESTIONNAIRE

#### FIRST PART: PRIOR TO NAVIGATING THE WEBSITE

1. Please indicate your level of agreement with the following statements:

(1) Strongly disagree to (5) Strongly agree

I am extremely skilled at using the web

I find the web easy to navigate

I know how to find what I am looking for on the web

It is easy for me to find information on the web

Using the web provides a good test of my skills

2. Please indicate your level of agreement with the following statements:

(1) Strongly disagree to (5) Strongly agree

Using the web generally challenges me mentally

The web provide many possible things to do

Using the web challenges me to perform to the best of my ability

I find that using the web stretches my capabilities to the limits

The web provides many opportunities for action

3. On average, how many hours do you spend on the Internet per week? \_\_\_\_

On average, how many hours do you spend on the Internet per week for:

- browsing \_\_\_\_\_
- personal research (own use products) \_\_\_\_\_
- professional research (work, school) \_\_\_\_\_
- entertainment (games, blogs) \_\_\_\_\_

4. Please indicate your level of agreement with the following statements:

(1) Strongly disagree to (5) Strongly agree

I like to be responsible for a situation that requires a lot of thinking

I would prefer complex to simple problems

Thinking is my idea of fun

I like tasks that require large thought once I have learned them

I prefer my life to be filled with puzzles that I must solve

I feel satisfaction after completing a task that required a lot of mental effort

Learning new ways to think excites me very much

I prefer browsing educational to entertaining programs

**PLEASE ACCESS AND NAVIGATE THE WEB SITE ASSIGNED TO YOU:**

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**SECOND PART: AFTER NAVIGATING THE WEBSITE**

5. *After viewing this web site, I felt:*

- (1) Unhappy (5) Happy
- (1) Annoyed (5) Pleased
- (1) Dissatisfied (5) Satisfied
- (1) Despairing (5) Hopeful
- (1) Unaroused (5) Aroused
- (1) Relaxed (5) Stimulated
- (1) Calm (5) Excited
- (1) Sleepy (5) Wide-awake

6. *Please indicate your level of agreement with the following statements:*

(1) *Strongly disagree to* (5) *Strongly agree*

I felt that I had a lot of control over my visiting experiences at this site

While I was on this site, I could choose freely what I wanted to see

While surfing the web, I had absolutely control over what I could do on this site.

While surfing the web, my actions decided the kind of experiences I got on this site

While I was on this site, I controlled what happened in my online information searches

7. *Please indicate your level of agreement with the following statements:*

(1) *Strongly disagree to* (5) *Strongly agree*

I felt like I was totally absorbed by this site

While visiting this site, time seemed to go very quickly

While visiting this site, I forgot about my immediate surroundings

While visiting this site, I was not conscious of how long I had been surfing

8. *Please indicate your level of agreement with the following statements:*

(1) *Strongly disagree to* (5) *Strongly agree*

This site is fun to browse

This site is exciting

This site is imaginative

This site is entertaining

This site is flashy

9. *Please indicate your level of agreement with the following statements:*

(1) *Strongly disagree to* (5) *Strongly agree*

The information on this site is convenient

The information on this site is accurate  
The information on this site is up-to-date  
The information on this site is complete  
The information on this site is relevant

*10. Please indicate your level of agreement with the following statements:*

*(1) Strongly disagree to (5) Strongly agree*

This site is informative to me

This site is resourceful to me

This site is useful to me

This site is knowledgeable for me

*11. The product in this web site is:*

(1) Unimportant to me (5) Important to me

(1) Irrelevant to my needs (5) Relevant to my needs

(1) Not worth remembering (5) Worth remembering

(1) Not worth paying attention to (5) Worth paying attention to

(1) Does not matter to me (5) Matters to me

(1) Insignificant to me (5) Significant to me

*12. The web site I have just visited is:*

(1) Unimportant to me (5) Important to me

(1) Irrelevant to my needs (5) Relevant to my needs

(1) Not worth remembering (5) Worth remembering

(1) Not worth paying attention to (5) Worth paying attention to

(1) Does not matter to me (5) Matters to me

(1) Insignificant to me (5) Significant to me

*13. Please, indicate your attitude toward the website you just visited:*

(1) This site is bad (5) This site is good

(1) I dislike this site (5) I like this site

(1) I react unfavorably toward this site (5) I react favorably toward this site

(1) I have negative toward this site (5) I have positive feelings toward this site

(1) This site is unattractive (5) This site is attractive

*14. Please indicate your level of agreement with the following statements:*

*(1) Strongly disagree to (5) Strongly agree*

The likelihood of purchasing this product is high.

The probability that I would consider buying the product is high.

My willingness to buy the product is high.

I intend to purchase this product.

## DEMOGRAPHICS

### 15. Gender

- Male
- Female

### 16. Age category

- 18-24
- 25-34
- 35-44
- 45-54
- 65 and more

### 17. Education

- High school
- Trade-vocational school
- Community college, technical institute / CEGEP
- Undergraduate degree
- Graduate degree

### 18. Work status

- Part-time worker
- Full-time worker
- Retired
- Not working
- Student

### 19. Income

- Under \$25,000
- \$25,000 - \$49,999
- \$50,000 - \$74,999
- \$75,000 - \$100,000
- over \$100,000