Emotions and Customers' Perception of Website Atmospheric Cues

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ABSTRACT
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The primary purpose of this study was to develop a more comprehensive model of online consumer behaviour and test it in different industries to increase the generalizability of the results. This study used Zajonc (1980) theory of emotions and Mehrabian and Russell (1974) Stimulus-Organism-Response (SOR) paradigm to examine the relationships between customers' emotions, perception of site atmospheric and other behavioural and intentional variables. Based on Zajonc (1980) theory of emotions, it is proposed that customers' emotions arise upon the initial exposure to the website, which in turn, influences their perception of site atmospheric cues such as site informativeness, site effectiveness, and site entertainment. Then, based on SOR paradigm, it is proposed that customers' perceptions influence their intentional and behavioural variables such as site attitudes, site involvement, product attitudes, and purchase intention. To increase the generalizability of the findings, the proposed model was tested in three studies. In addition, the path coefficients of all the relationships in the model were compared in those studies.

First study tested and compared the path coefficients of all the relationships in the model between physical goods and services websites. The results of multi-group analysis in EQS supported the overall model and demonstrated several non-invariant paths between the two groups. Particularly, the results suggested that the influences of pleasure and arousal on customers' perception of site atmospheric cues are stronger for physical goods customers and influences of site effectiveness on site attitudes and informativeness are stronger for services customers.

Second study tested the model and compared the path invariance among three types of services: search-, experience-, and credence-based. The results, again, supported the overall model and revealed several non-invariant structural paths. The results suggested that the influences of "dominance" are the greatest for search-based services while "pleasure" impacts are greater for experience- and credence-based services.

Third study tested the model and compared it between Canadian and Chinese cultures. The results supported the proposed model and demonstrated that half of the structural paths are non-invariant between the two groups. Particularly, the impacts of pleasure on perception of atmospheric cues are stronger for Canadian customers; whereas, dominance has greater influence on Chinese customers' perception. Moreover, the impact of site entertainment on site attitudes and involvement are stronger for Chinese, while, site informativeness and effectiveness have greater impacts on Canadian customers.

The contribution of this paper is twofold. First, it develops a more comprehensive model of online consumer behaviour and suggests that customers' emotions at the initial exposure to the website are a driver of their site atmospheric perception. Second, it empirically tests the model in different industries and cultures and reports the differences across groups. Results of all the three studies supported the overall model and revealed many non-invariant structural paths across groups. The theoretical and practical implications are discussed in each study.

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CHAPTER 1

INTRODUCTION

Development of e-commerce and the transition from traditional retailing to online retailing has encouraged researchers to explore different aspects of the new medium. Grewal and Levy (2009) stated that the use of the Internet by almost all customers and business segments have changed the retailing marketplace tremendously.

In the traditional retailing context, Baker (1987) and Baker et al. (1994) suggested that store environment and atmospheric cues are more influential than other marketing inputs that are not present at the point of purchase. In a review of literature, Turley and Milliman (2000) reported over 60 published articles that reported significant associations between store atmospheric cues and consumer behavior variables (Dailey 2004).

Previous studies in online store atmospherics investigated the influences of customers' perception of the site atmospheric cues on their intentions and behaviors. Majority of those studies relied on the Stimulus-Organism-Response (SOR) framework proposed by Mehrabian and Russell (1974) –which Mummalaneni (2005) confirmed its viability in online retailing. Richard (2005) assumed that online environmental cues were stimulus, customers' cognitive and affective responses – such as site attitudes and site involvement –were organism, and shopping outcomes were responses. She supported the model and concluded that online environmental cues –such as site informativeness, structure, organization –influence purchase intention through customers' cognitive and affective responses. Similarly, Hausman and Siekpe (2009) reported that online store atmospherics influence customers'

attitudes toward the website and flow, which in turn, impact purchase intention. Furthermore, Kim, Fiore, and Lee (2007) found that online store perception and online shopping involvement influence customers' desire to stay at the online store and purchase intention.

Emotion is known as one of the central element in understanding customer behavior (Oliver, 1986; Bagozzi, Gopinath, and Nyer, 1999). Scholars in services marketing and traditional retailing have demonstrated the significant influence of customers' emotions on their reactions to the service encounter and store environment (Donovan et al., 1994; Mattila and Enz, 2002; Pough, 2001). Despite the importance of this topic in online retailing, very few studies have empirically investigated the customers' affective responses to the online store atmospheric. Furthermore, those studies reported mixed results regarding the influences of emotional responses in online shopping environment (i.e. Mummalaneni, 2005).

Adopting the SOR framework, previous studies assumed that store atmospheric cues are antecedent of customer's emotions (Mummalaneni, 2005; Richard, 2005). While, research in Psychology suggests that individuals' emotional reactions precede their cognitive and perceptual operations (Zajonc, 1980). This research argues that customers need to use their cognition to evaluate, at least certain, store atmospheric cues. As a result, the relationship between customers' emotional reaction and customers' perception of site atmospheric cues is a topic that requires further exploration.

This research aims to bridge the gap in the literature by empirically investigating the relationship between emotions and site atmospheric cues. For that, it categorizes the atmospheric cues into two groups. First group influences customers' emotions at the initial exposure to the site. The second group consists of the cues

which must be perceived by customers; thus, is the consequent of emotions. Based on this categorization and SOR framework this research proposes a more comprehensive model of online customer behavior.

In order to validate the proposed model and test the generalizability of findings, three studies are conducted. The intention is to explore the potential moderating effect of industries, service types, and culture on the relationships in the proposed model. It is important to test moderating effects as the post hoc model modification may be driven by characteristics of the particular sample (or industry) on which the model was tested (Byrne, 1994). Testing a model in different industries and culture addresses this issue and increase generalizability of the findings.

The first study tests the proposed model in both physical goods and services websites. Furthermore, based on the previous literature, it hypothesizes and tests the path invariances of overall model between customers of the two groups: physical goods and services websites.

The second study aims to test the proposed model across different types of services websites. The attempt is made to test the overall proposed model again and to assess the moderating influence of service types on the relationships. Therefore, this study compares and contrasts the structural paths across the three service types: credence-, experience-, and search-based.

The third study tests the overall proposed model and explores the potential impacts of culture on the relationships in the proposed model. Thus, it compares the path coefficients of all the relationships in the model between Canadian and Chinese customers.

The remainder of this thesis is organized as follows. In chapter 2, drawing from literature the proposed overall model is developed. First study, which focuses on

the differences between physical goods and services websites, is discussed in Chapter 3. This   describes hypotheses regarding the differences between the two groups, methodology, empirical analysis and findings of this study. Chapter 4 describes the second study which investigates the moderating influence of service types. With the same layout, Chapter 5 describes study three, which aims to assess the moderating influence of culture on the proposed relationships. Chapter 6 and Chapter 7 discuss the overall conclusion and future research direction, respectively.

CHAPTER 2

THEORETICAL BACKGROUND

Store environment is a well established area in traditional retailing and service marketing. Kotler (1973) defined atmospheric as "the conscious designing of space to create certain effects in buyers" (p. 50) and considered atmospherics as an effort to design the environments in a way that produce specific emotional effects which result in purchase intention. The strong influences of the store atmospheric on customers' attitudes, intentions, and behaviors are reported over the last five decades (see Turley and Milliman, 2000). Those effects made the store atmospheric one of the most influential elements on customer purchasing decisions (Baker et al., 1994).

Store atmosphere is an important concept in online marketing as well. The virtual store environment is a small screen and customers have the control over the kind of Web pages to browse, duration of their search, and amount of information obtained (Dholakia and Rego, 1998). It takes seconds for customers to switch from one site to the other. The importance of store atmospheric in online marketing has encouraged researchers to explore the impacts of website atmospheric cues on individual's surfing behavior (Eroglu, Machleit, and Davis, 2003; Hausman and Siekpe, 2009; Richard, 2005).

In traditional retailing, visual, aural, olfactory, and tactile were considered as the four main sensory channels (Kotler, 1973). These sensory qualities could be intrinsic to the store space or designed and added on into the store. Based on this definition, in online context two of those intrinsic dimensions are relevant: visual and aural. Background color, brightness, size, and shapes are considered as visual dimension; whereas, background music, and volume are aural dimensions.

Given the importance of store atmospheric in retailing, Donovan and Rossiter (1982) introduced the Mehrabian and Russell (1974) model, which was based on Stimulus-Organism-Response (SOR) paradigm, to the study of store atmosphere. The SOR framework states that the features of the environment (Stimulus) are related to the individual's responses (Response) within environment, mediated by the individual's emotional states (Organism). Mehrabian and Russell (1974) stated that the individual's responses to the environment can be considered as approach or avoidance behaviors. The four aspects of approach-avoidance behaviors are as follow:

	Approach	Avoidance
1.	Desire to stay in the environment	Desire to get out of the environment
2.	Desire to look around and to explore the environment	Tendency to avoid moving through or interacting with the environment
3.	Desire to communicate with others in the environment	Tendency to avoid interacting with others in the environment
4.	Degree of enhancement of performance and satisfaction with task performances	Degree of hindrance of performance and satisfaction with task performances

Source: Mehrabian and Russell (1974)

Donovan and Rossiter (1982) mentioned that all the aspects are quite appropriate for describing customer behaviors in a retail environment. With the same logic, this study argues that these aspects are appropriate for online store environment as well. The first aspect can be related to store purchase intention. The second aspect can be related to online search and involvement in the website. The third aspect can be related to the degree that customers interact with others through the facilities

available in the site such as site chat room or even interacting with the avatars in the site. The last aspect can be related to repeat-visiting frequency and time and money expenditures in the website.

Less than a decade ago, similar to the work of Donovan and Rossiter (1982), Eroglu, Machleit and Davis (2001) adapted the SOR paradigm in online marketing context. It was perhaps the first published article that provided a framework for examining the influence of site atmosphere on online consumer behavior. The model suggested that atmospheric cues of the online store influence the response of online shoppers through the intervening effects of affective and cognitive states. They also proposed that the involvement and atmospheric responsiveness moderate the influence of stimulus.

Stimulus **Organism** **Response**

Online Environmental Cues	Involvement	Internal States	Shopping Outcomes
•High Task Relevant		•Affect	•Approach
•Low Task Relevant	Atmospheric Responsiveness	•Cognition	•Avoidance
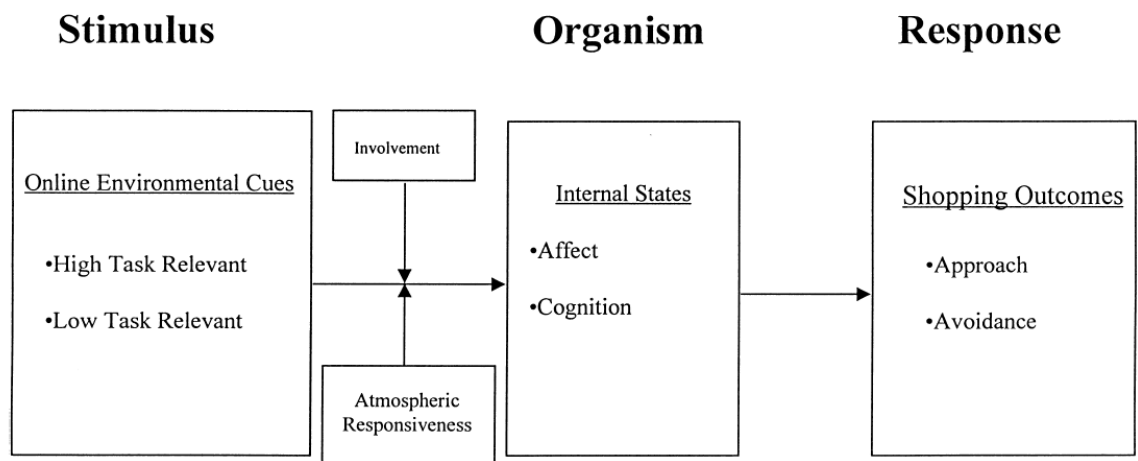
Source: Eroglu, Machleit, and Davis (2001, p.179)

Based on this framework, shoppers' internal states are considered as the organism and categorized into affective and cognitive variables. It is assumed that the online environmental cues influence online customers' internal states. Finally, the last stage is response. Customers' internal states (both affect and cognition) are proposed to influence their shopping outcomes which can be either "approach" or "avoidance" (Eroglu, Machleit and Davis, 2001).

Several studies in online marketing employed this framework and developed models for online consumer behavior (e.g. Davis, Wang, Lingridge, 2008; Eroglu, Machleit, and Davis, 2003; Hausman and Siekpe, 2009; Richard, 2005). Vrechopoulos et al. (2004) transformed the three most common conventional retailing layout types –freedom, grid, and racetrack –into virtual layouts and tested them in a laboratory experiment; where, subjects were given a budget for their planned shopping task. Results of their study suggested that the online store layout significantly affects customer's online shopping behavior. Richard (2005) developed and tested an online consumer behavior model in pharmaceutical website and found that the majority of atmospheric cues influenced variables such as site involvement, attitudes, and exploratory behavior. Mummalaneni (2005) validated the SOR paradigm in online context (for apparel and footwear online stores) and reported the characteristics of online store environment impact shoppers' emotional states which influence their behaviors. More recently, Hausman and Siekpe (2009) found that website interface features influenced customers' purchase intention through site attitudes and flow.

In those studies, variety of website characteristics, site atmospheric cues, or site interface features –terms were used interchangeably –were manipulated or measured. For examples, Eroglu, Machleit, and Davis (2003) used factors such as photo of the products, ordering policy, customer feedback form, color of the text, and photographs of the design employees to manipulate high- and low-task relevant cues. Richard (2005) measured factors such as navigational characteristics, site informativeness, site effectiveness, site entertainment as indicators of high and low task relevant cues in her proposed model. Mummalaneni (2005) manipulated characteristics such as large-small, roomy-cramped, colorful-drab, well organized-

unorganized layout, and good-bad displays as an indicators of website characteristics. Hauman and Siekpe (2009) used factors such as global search feature, humor, language options, gift services, and security indication to manipulate the website environment.

Looking at the previous studies, site environment variables may be divided into two broad categories. The first category includes cues such as text color, size, background color, and music which could be considered as "visual" and "aural" dimensions of the atmosphere. Based on SOR framework these atmospheric cues tend to impact customer's emotions at the initial exposure to the website. The influence of this group –visual and aural characteristics –on consumer emotions is not necessarily at the conscious level. Consequently, previous research studying this category (e.g. Hauman and Siekpe, 2009) has manipulated the site atmospheric cues.

The second category includes the cues such as website informativeness, effectiveness, structure, and entertainment. These are the characteristics that need customers' evaluations and are not automatically impact customer's emotions at the initial exposure to the site. Individuals should evaluate those features while they are surfing the website. Thus, distinction might exist between the firm's "intended site atmosphere" and "customer's perceived atmosphere". Consequently, previous research studying this category (e.g. Richard, 2005) has measured the site atmospheric cues. In this group, the customer's perception is important and not the intention of the site designer.

In summary, the visual and aural atmosphere dimensions such as background color and music activate customers' emotions automatically (Bagozzi, Goponath, & Nyer, 1999) –which is consistent with SOR paradigm. However, the second group needs to be evaluated and perceived by customers.

Zajonc's (1980) proposed that affective reactions are independent of perceptual and cognitive operations. He proposed that individual's emotions precede their cognitions. Consistently, several scholars in psychology have suggested that emotions impact the individual's information processing strategies. For example, Clore, Shwarz, and Conway (1994) found that positive emotions were associated with heuristic information-processing strategies and negative emotions with systematic elaboration of information. In the same line, Rapoport (1982) stated that "people react to environments globally and affectively before they analyze and evaluate them in more specific terms" (p.14), and feelings are first aroused which provided a background for more specific images (Rapoport, 1977).

This study proposes that the first group of atmospheric cues –visual and aural –are antecedent of customer's emotions; whereas, the second group –cognitive cues – are consequent of customer's emotions. In other words, depending on the emotional states that arise at the initial exposure to the site, customers may perceive the levels of site informativeness, effectiveness and entertainment differently (see Figure 1). In this study, atmospheric cues refer to the second group.

Visual & Aural Dimensions	Emotions	Perception of Cognitive Site Atmospheric Cues	Consumer Behavior Variables
Color Font Shapes Music	Pleasure Arousal Dominance	Informativeness Effectiveness Entertainment	Site Attitudes Site Involvement Service Attitudes Purchase Intention
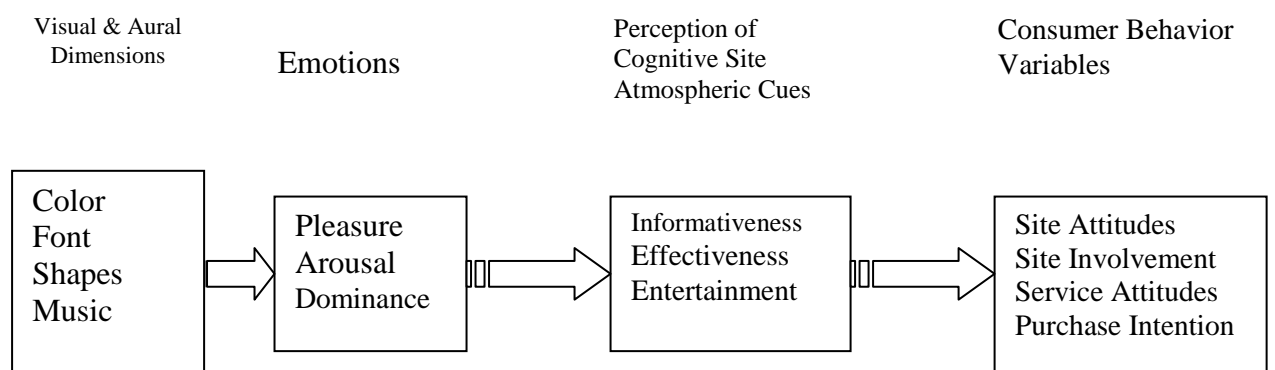
Figure1. Conceptual Model

Next sections in this chapter discuss and explain in depth the major theoretical concepts of the study.

2.1. Emotions

One finds several definitions of emotions in the literature. Clore, Ortony, and Foss (1987) defined emotion as a valenced affective reaction to the perception of situations. The Mehrabian and Russell's (1974) three situational descriptors of emotions (PAD: pleasure, arousal, and dominance) were designed to capture emotional responses to environmental stimuli (Richins, 1997). Therefore, it is the most often used framework to measure emotions in this context. Russell (1979) stated that the two dimensions of pleasure and arousal can adequately represent the range of emotions exhibited in response to environmental stimuli. In line with that recommendation, many studies in traditional retailing used only the pleasure and arousal dimensions to capture the range of emotional responses (e.g., Eroglu, Machleit, and Davis, 2001). However, in online navigational contexts, where customers have more control over their shopping behavior, dominance becomes a relevant emotional response (Eroglu Machleit, and Davis, 2001) and because of that, this dimension is included in our model. According to previous studies using the PAD framework, pleasure refers to the degree to which a person feels good, joyful, happy, or satisfied in a situation. In this context, we can assume that pleasure is an indicator of "likeability" of the website (Poels and Dewitte, 2008). Arousal refers to the degree to which a person feels stimulated, active, or alert and it can be considered as an indicator of "motivational power" of the website (Poels and Dewitte, 2008). Dominance refers to the degree to which a person feels unrestricted or free to act, controlling, influential, or autonomous. It can be considered as an indicator of "controlling power" of the website.

This study includes all the three dimensions of emotions independently in the model. Many previous studies have employed a "dimensional approach" of emotions

by considering each element as an independent variable (e.g., Wang, Baker, Wagner, and Wakefield, 2007). Using this approach, a customer can be in "a high arousal situation that may or may not be pleasurable" (Menon and Kahn, 2002). Moreover, studies in traditional retailing did not find consistent results for the impact of pleasure and arousal on other variables (Mummalaneni, 2005). Mehrabian and Russell (1974) stated the three elements of emotions may exhibit correlation. Therefore, the covariances among the three elements set to be free in the model.

As previously explained, scholars in environmental psychology suggested that customers respond to dimensions of the physical surroundings emotionally and cognitively; these responses impact customer behavior within the environment (Mehrabian and Russell, 1974). In online retailing, the shopping environment is a small screen (Menon and Kahn, 2002); therefore, the initial site exposure influences the emotions of shoppers. This assumption is in line with Zajonc's (1980) framework.

When customers visit the company's website, the emotional variables are the ones activated first. Customers need to use their cognitions to evaluate the level of site informativeness and effectiveness of information content. Therefore, we hypothesize that the emotional elements precede customers' perception of site informativeness, effectiveness of information content and site entertainment. Therefore, the first group of hypotheses is:

H1: Pleasure is positively associated with customer's perception of *(a)* informativeness, *(b)* effectiveness of information content, and *(c)* site entertainment.

H2: Arousal is positively associated with customer's perception of *(a)* informativeness, *(b)* effectiveness of information content, and *(c)* site entertainment.

H3: Dominance is positively associated with customer's perception of *(a)* informativeness, *(b)* effectiveness of information content, and *(c)* site entertainment.
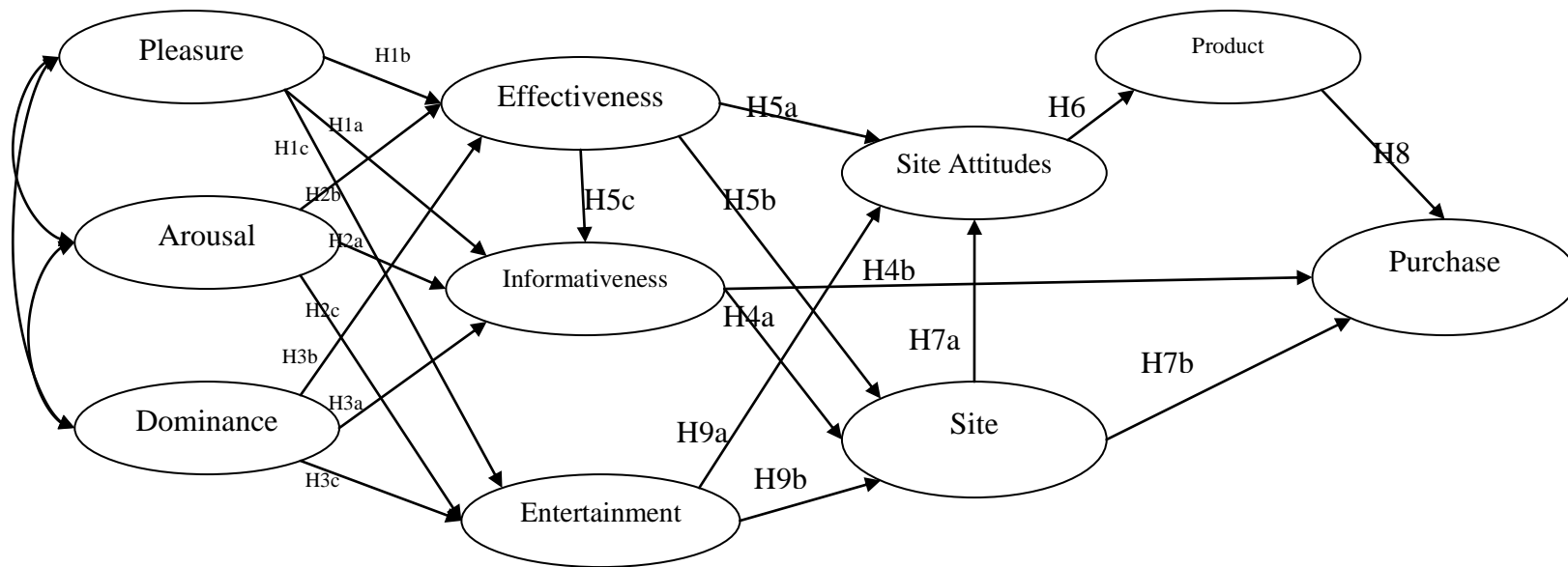
Figure 2. Proposed Model of Online Consumer Behavior

2.2. Customers Perception of Site Atmospherics

The Internet is a useful tool for information search and it allows customers to access both specific and general information about products. The Internet allows companies to provide "full communication of information" at a low cost with almost no constraints (Reibstein, 2002). Burke (2002) reported that customers who shop online look for information such as prices, product specifications, usage instructions, warranty information, and lists of the products on sale.

At the same time, switching from one store to the other is much easier in online context compared to the traditional retailing. Therefore, companies attempt to increase the level of site informativeness, effectiveness, and entertainment. The information used by customers has a direct effect on the formation of performance expectations (Keaveney and Parthasarathy, 2001) and in turn, influences customers' attitudes towards a website and their involvement in it which will lead to higher purchase intentions and behavior (Richard, 2005).

Several studies have investigated the impact of atmospherics on the nature and outcomes of shopping in online and offline contexts. Eroglu, Machleit, and Davis (2001) categorized the environmental cues in two groups: high and low task relevant cues. They defined high task-relevant cues as all the site descriptors on the screen which facilitate the customer's shopping goal attainment and low task-relevant cues as the ones that are not relatively consequential to the completing of the shopping task. In other study, Liang and Lai (2001) labeled environmental cues as computer and human factors. Human factors are the ones that add value to the website; whereas, the computer factors are more technical and informational aspects of the website.

The human factors and low task-relevant cues are very similar in a sense that they both include more hedonic elements. On the other hand, computer factors and

high task-relevant cues both include more utilitarian elements of the sites (Hausman and Siekpe, 2009).

This study chose two high task-relevant cues which are site informativeness and effectiveness of information content and one low task-relevant cue which is site entertainment. The reason for this selection is that the Internet is regarded as an "infotainment" media since information and entertainment are the two essential elements of the websites (Eighmey, 1997). Informativeness is defined as the ability of a website to make information available to visitors (Hoffman and Novak, 1996). Entertainment is the extent to which a website is fun, exciting, cool, and imaginative (Chen and Wells, 1999).

Although informativeness is an important characteristic of a website, the way that information is provided and the type of information on the website are also important. Loads of unrelated information does not help the customers; as a matter of fact, it might confuse them. Dholakia and Rego (1998) reported that the amount of information on a firm website, by itself, does not play a significant role in attracting online customers.

As a result, there is a need for another variable to capture the nature of information provided in the site. Montoya-Weiss, Voss, and Grewal (2003) used the "quality of the site information content" which was defined based on the three characteristics: information utility, information accuracy, and information timeline. In the same line, Hausman and Siekpe (2009) had "usefulness" of site information as an independent variable in their proposed model. In another study, Vrechopoulos et al. (2004) used variables such as "perceived usefulness" and "ease of use" as the measures of effective virtual shopping environments. Consistent with Richard (2005), beside site informativeness, we employed "effectiveness of the information content"

which refers to the degree that the information on the website is accurate, up-to-date, complete, and relevant to the visitors (Bell and Tang, 1998).

This study employed the Mehrabian and Russell's (1974) Stimulus-Organism-Response (*SOR*) framework in psychology. Donovan and Rossiter (1982) adopted this framework in retailing context and it is a suitable theoretical paradigm for online retailing environments (Eroglu et al., 2001).

Applying the SOR framework, site informativeness in expected to influence site involvement. According to the *SOR* framework, online atmospheric cues (such as site informativeness, effectiveness of information content, and entertainment) impact customers' affective and cognitive responses (such as site attitudes and site involvement), which lead to the customers' shopping outcomes (such as purchase intentions).

Meanwhile, site informativeness is expected to impact purchase intentions as customers purchasing decision is directly impacted by the information they use (Keaveney & Parthasarathy, 2001). Purchase intentions are referred to customers' initiations to make an initial online/offline purchase from a service provider (Schlosser, White, and Lloyd, 2006). Thus, the next hypothesis is:

H4: Site informativeness is positively associated with *(a)* site involvement and *(b)* purchase intentions.

This study does not hypothesize the association of site informativeness and site attitudes. The amount of information provided in the website does not directly impact customer's attitudes toward the site. This relationship was not supported by several previous studies as well (e.g. Dholakia and Rego, 1998; Richard, 2005).

Similarly, in a recent study in advertising context, Cauberghe and Pelsmacker (2010) reported that the amount of information by itself does not influence customers' attitudes toward the brand.

Nevertheless, this study proposes that the effectiveness of information content is the variable which impacts the customers' attitudes toward the website. Besides, if the information provided on the site is accurate, up-to-date, and relevant, customers perceive the site as more informative; therefore, effectiveness of information positively impacts site informativeness. Based on the *SOR* framework, we expect to find an association between site effectiveness and site involvement as well. Therefore, the next hypothesize is:

H5: Effectiveness of information content is positively associated with *(a)* site attitudes *(b)* site involvement and *(c)* site informativeness.

2.3. Site Attitudes, Site Involvement and Attitudes toward the Product

In line with previous studies (Dreze and Zurfryden, 1997; Ducoffe, 1996; Jee and Lee, 2002), this study assumes that websites reflect the characteristics of traditional advertisements, as they are crafted in the same way an ad is created. In advertising context, researchers have shown that customers' attitudes toward an advertisement positively influenced their attitudes toward the product (Brown and Stayman, 1992). The websites can also be seen as an important source of cues that form customers' attitudes toward the product. Thus, it is hypothesized that:

H6: Site attitudes are positively associated with product attitudes.

Involvement has been widely studied in marketing, particularly in advertising and consumer behavior (Cho, 1999; Petty, Cacioppo, and Schumann, 1983). Generally speaking, involvement is defined as an internal state of arousal which includes three properties: intensity, direction and persistence (Andrews, Durvasula, and Akhter, 1990). Involvement can be towards a good, a service, an advertisement, a situation, a website, or even a person (Gabbot and Hogg, 1999).

Two types of involvement have been discussed in consumer behavior: situational and enduring involvement. Situational involvement occurs in specific situations, while, enduring involvement is an ongoing concern with a product that goes beyond situational influences (Richins and Bloch, 1986).

In a website navigation context, site involvement can be considered as a situational involvement and it is comparable to message involvement in advertising. Highly site-involved customers interact more with the website and try more interactive functions (Yoo and Stout, 2001). These interactions make the customer more familiar with the website and increase their site attitudes.

Moreover, previous research in consumer behavior and in advertising contexts reported that a high level of involvement was associated with the time and effort spent in search-related activities (Bloch, Sherrell, and Ridgway, 1986) and it increased customer's purchase intentions (Kwak, Fox, and Zinkhan, 2002; Richard and Chandra, 2005). In the same line, Puccinelli et al. (2009) stated that involvement greatly influenced consumer decision process in the first three stages: need recognition, information search, and evaluation. Therefore, the next hypothesis is:

H7: Site involvement is positively associated with *(a)* site attitudes and *(b)* purchase intentions.

Customers' attitudes toward a product are an important concept in marketing as its link to purchase intentions has been found in previous studies (Oliver, 1986). Based on the Ajzen and Fishbein (1980) theory of reasoned action (TRA), the intentions are the direct outcome of attitudes. In other words, customers' attitudes toward the product directly impact the purchase intention. Recently, Puccinelli et al. (2009) reported that the customers' attitudes toward a service affected their decision process. More specifically, they proposed that attitudes have impacts on the evaluation, purchase, and postpurchase stage of decision process. This leads us to the next hypothesis:

H8: Product attitudes are positively related to purchase intentions.

2.4. Entertainment

The concept of entertainment is widely used in advertising contexts. McQuail (1983) noted that entertainment is valuable as it can fulfill the audience needs for escapism, diversion, aesthetic enjoyment, or emotional release. Increasing website entertainment encourages customers to explore the website even more. Website designers often utilize interesting themes, flashy and graphical information, as well as appealing layouts to increase the site entertainment value. An entertaining website is the one that is fun, exciting, cool, and imaginative (Chen and Wells, 1999).

Site entertainment may be considered as a low task relevant environmental cue. In applying the *SOR* framework, Richard (2005) demonstrated the impact of site entertainment on site attitudes. In a television advertising context, Park and Young (1986) found an impact of entertainment (i.e., background music) on involvement

toward the commercial, which can be extended to site involvement. Thus, it is hypothesized that:

H9: Site entertainment is positively associated with *(a)* site attitudes and *(b)* site involvement.

Next three chapters discuss the conceptual framework in three different studies. First study tests the conceptual model and compares the structural paths between service and physical goods websites. Second study tests the proposed model and investigates path structural invariance among three different service industries: search-, experience-, and credence-based services. Finally, the third study validates the overall model in two cultures: Canada and China. The strengths of the structural paths are compared between the two groups.

CHAPTER 3

STUDY 1: Physical goods vs Services

In this study, the term "products" refer to both physical goods and services. Kotler et al. (2011) define product as "anything that can be offered to a market for attention, acquisition, use, or consumption that might satisfy a want or need" (p. 276). Based on this definition, products include more than just physical goods.

Service is defined as "deeds, process, and performances" (Vargo and Lusch, 2004, p.326; Zeithmal and Bitner, 2006, p.3). There is an agreement among researchers and practitioners regarding the unique characteristics of services: intangibility, simultaneity of production and consumption, and nonstandardization (Murray, 1991).

Based on the above characteristics, researchers emphasize that services and physical goods are not similar in the customer's mind. Zaithmal (1981) stated that "services' unique characteristics necessitate different consumer evaluation processes from those used when assessing goods" (p. 186). Previous studies also reported the differences between services and physical goods in several areas in marketing such as advertising strategies (Cutler and Javalgi, 1993; Zinkhan, Johnson, and Zinkhan, 1992; Zinkhan and Zinkhan, 1985), customers' risk perception (Brown and Fern, 1981; Murray and Schlacter, 1990), and customers information acquisition (Murray, 1991).

Purchasing a service is often riskier than purchasing a physical good and requires a more complex information collection and decision making process. Stafford and Day (1995) found that rational appeals are superior to emotional appeals for services advertising. The rational and informative advertisements help the services

customers to reduce the uncertainty associated with the service purchase. Consistently, it can be argues that when a customer is visiting the service website, he/she is more interested in obtaining information. On the other hand, visitor of a physical good website may be more interested in interacting with the site. Therefore, the influence of emotions on customers' perception should be stronger for physical goods customers than for services one.

Moreover, customers tend to use different sources of information for services and physical goods. Murray (1991) found that service customers rely more on personal sources of information compared to physical goods customers. In the same line, Dawes, Dowling and Patterson (1993) suggested that "networking" was the most influential source while "impersonal advertising" was the least influential source of information for services customers.

Services customers consider the firm's website as a commercial source of information. The site is designed, developed, and controlled by the firm. Therefore, customers may not solely rely on the information provided on the site.

That explains why many service providers attempt to increase the credibility of their site by presenting the current and previous customers' reviews or testimonials. Still, service customers would seek for more personal source of information to make the purchasing decision.

Thus, services consumers would use cognitive information processing by collecting information from different sources. They try to cope with their emotions to make a more rational purchasing decision.

This behavior is expected to be found in website navigation as well. Therefore, the influence of emotional elements in the proposed model should be stronger for physical goods customers compared to the services customers.

H11: Impacts of pleasure on customers' perception of *(a)* informativeness *(b)* effectiveness, and *(c)* entertainment are stronger for physical goods customers than for services customers.

H12: Impacts of arousal on customers' perception of *(a)* informativeness *(b)* effectiveness, and *(c)* entertainment are stronger for physical goods customers than for services customers.

H13: Impacts of dominance on customers' perception of *(a)* informativeness *(b)* effectiveness, and *(c)* entertainment are stronger for physical goods customers than for services customers.

On the other hand, due to the risk involved in the service purchases, customers obtain more information for purchasing decision (Murray, 1991). This is why rational and informative appeals were reported to be more effective for services (Stafford and Day, 1995). In the same line, the level of website informativeness and effectiveness should have stronger impacts on services than physical goods customers.

H14: Impacts of site informativeness on *(a)* site involvement and *(b)* purchase intention are stronger for services customers than for physical goods customers.

H15: Impacts of site effectiveness on *(a)* site informativeness *(b)* site attitudes and *(c)* site involvement are stronger for services customers than for physical goods customers.

Customers consider the firms' website as a source to obtain information (Zeithmal, 1981). Positive attitudes toward the website should positively associate with the positive attitudes toward the product. This association, however, might be stronger for physical goods customers. Service customers tend to search more for information and use the personal experience to form attitudes toward service providers.

H16: Impacts of site attitudes on product attitudes is stronger for physical goods customers than for services customers.

It is more vital for service providers to get the online customers involved in the website. Highly site-involved customers interact more with the website and try more interactive functions (Yoo and Stout, 2001). Services customer's high involvement results in obtaining more information and reduce the risk of purchasing decision. Interacting with the services website may even reduce the service intangibility. Many service firms offer customer a virtual experience of the service which will reduce service intangibility. Therefore, the influence of site involvement on customer's attitudes and intentions should be stronger for services customers compared to those of the physical goods.

H17: The impacts of site involvement on *(a)* site attitudes and *(b)* purchase intention are stronger for services customers than physical goods customers.

Compared to the physical goods customers, service customers tend to obtain more information for evaluating the purchasing options and make the final decision.

The product attitudes are strong antecedent of purchasing behavior for services when attitudes based on previous experience. In this study, customers' attitudes, for the most part, are the consequence of site attitudes. Therefore, the impact of product attitudes on purchase intention should be stronger for physical goods customers than those of services.

H18: The impact of product attitudes on purchase intention is stronger for physical goods customers than for services customers.

Finally, site entertainment impacts customer attitudes toward the site and their level of involvement. This relationship might be stronger for physical goods customers as their purchasing decision is not as risky as the services customers' are. Services customers prefer to find useful information to make their decision making process easier. This is also in line with the work of Stafford and Day (1995), which suggested that rational and informative advertising appeal are superior to emotional appeals for the services.

H19: The impacts of site entertainment on *(a)* site attitudes and *(b)* site involvement are stronger for physical goods customers than for services customers.

3.1. Methodology

3.1.1. Data Collection

For the comparison, three service industries (hotels, vacation destinations, and banks) and three goods industries (clothing, vitamins, and furniture) were chosen for this study. The aim was to have more than one industry for each group and choose the ones that the sample, students, is familiar with. We selected four real websites for hotels, three for vacation destinations, two sites for banks, four sites for clothing, two for vitamins, and four sites for furniture manufacturers.

Students appear to be appropriate subjects for this study as online consumers are generally younger, more educated, and more affluent than the general population (Hanson, 2000). Thus, data were collected online using a computer lab in a large Northeastern university. Students had to book for a session for participation. The subjects were asked to click on the link which appeared on the monitor. That link randomly assigned them to one of the nineteen websites. They were exposed to a real website of a company and were asked to navigate through the site and collect information on the product offered in the website for at least 5 minutes. They are asked to fill out a questionnaire after visiting the website.

In total, 1701 subjects participated in this study. The respondents who failed to answer at least 50% of the questions or failed to navigate for at least 5 minutes were eliminated. Furthermore, to control biases based on prior experiences –similar to Wang, Beatty, and Mothersbaugh (2009) approach –the ones that had visited the assigned website before were dropped. As a result, 1689 valid responses were used for the analysis. Among them, 908 respondents were for goods and 781 were for services industries.

Overall, 49.7% of the subjects were male (49.8% in goods and 49.7% in services) and 48.5 were female (48.9% in goods and 48% in services). Eighty four percent of the respondents were between 18 and 24 and 10.2% were between 25 and 34 years of age.

3.1.2. Measurement

The questionnaire contained several measures addressing the research questions. All of the scales used in this study were adapted from the existing literature. Mehrabian and Russell's (1974) PAD scale for emotions was adapted to measure pleasure, arousal, and dominance. Chen and Wells (1999) scales were used to measure website entertainment (4 items) and informativeness (4 items). The effectiveness of information content of the websites was measured by a 5-item scale adopted from Bell and Tang (1998). Eighmey (1997) scale for attitudes was modified to a 5-item scale for website and service attitudes. Website involvement was measured by a 6-item scale (Muehling, Stoltman, and Grossbart, 1990). Finally, a 4-item scale for purchase intentions was adopted from Dodds (1991).

3.2. Results

3.2.1. Test of Reliability and Confirmatory Factor Analysis (CFA)

Given the high number of variables used in this study, an exploratory factor analysis was run on all 47 items of the study. The results of EFA (see appendix 1) demonstrate that all items, except two, had high primary loading (higher than .59) and low cross loadings (lower than .36). Two items of arousal were eliminated because of low primary and high cross loadings. The Cronbach's alphas for all constructs were in the acceptable range (Table 1). Then, CFA was run by specifying the factor model

including all 10 variables used in this study. The results of the CFA demonstrate the goodness of fit for the measurement model: the chi square, NNFI, CFI, and RMSEA have values of 3757 (df=906), .981, .983, and .051 respectively. Given the number of analyzed items and factors, the model fit parameters are in the acceptable range (Baumgartner and Homburg, 1996).

Constructs	Cronbach's α
Arousal	0.85
Pleasure	0.88
Dominance	0.88
Site Informativeness	0.89
Site Effectiveness	0.88
Site Entertainment	0.94
Attitudes toward the Site	0.89
Site Involvement	0.94
Attitude toward Product	0.92
Purchase Intention	0.93
Table1. Cronbach's alpha	

3.2.2. Test of Proposed Model

EQS 6.1 was used to test the model. First, the model was tested with the pooled data and it fitted the data very well. The goodness of model fit indicators were all in the acceptable range: the chi square, NNFI, CFI, and RMSA have values of 4189 (df =925), .981, .982 and .051 respectively. The results provided strong support for the overall conceptual model (Figure 1) and supported all the hypotheses, except

three (see the first column of Table 3). The impacts of arousal on the effectiveness of information content (H2b) and dominance on the site informativeness were not significant (H3a). Furthermore, the results suggested that the impact of site effectiveness on site involvement was negative (H5c). All the other hypotheses were supported.

3.2.3. Results of the Multiple-Group Analyses

To test the hypotheses and compare the strengths of the relationships among the variables between the two groups, study utilizes multiple group analysis in EQS. In order to find the significant non-invariant paths, the results of Lagrange test in EQS were used (see Table 2 for results). Several scholars have suggested that the results of Lagrange tests are equivalent to those of chi-square tests (Bentler, 2004). The Univariate Lagrange test provides an evaluation of the necessity of a given constraint; whereas, the multivariate test determines a simultaneous effect of several restrictions in the model. Therefore, we used the results of multivariate tests to test the hypotheses.

The null hypothesis for each constraint is that the constraint is true in the population involved. Therefore, the low probability value of the Lagrange test statistic indicates that the constraint is unreasonable. The results of the multivariate Lagrange test are presented on Table 2.

Proposed Model/ Groups	Hypothetical Path	Pooled	Goods	Services	Path Differences: χ^2(p-value)
H1a/H11a	Pleasure→ Informativeness	.250***	.283***	.215***	n.s.
H1b/H11b	Pleasure→ Effectiveness	.355***	**.375*****	**.255*****	**8.72(.003)**
H1c/H11c	Pleasure→ Entertainment	.486***	**.545*****	**.319*****	**3.33(.058)**
H2a/H12a	Arousal→ Informativeness	.199***	.181***	.180***	n.s.
H2b/H12b	Arousal→ Effectiveness	-.015n.s.	-.017n.s.	-.040n.s.	n.s.
H2c/H12c	Arousal→ Entertainment	.339***	**.218*****	**.357*****	**6.47(.011)**
H3a/H13a	Dominance→ Informativeness	-.038n.s.	-.028n.s.	-.071n.s.	n.s.
H3b/H13b	Dominance→ Effectiveness	.536***	.450***	.566***	n.s.
H3c/H13c	Dominance→ Entertainment	.253***	.165**	.240***	n.s.
H4a/H14a	Informativeness → Site Involvement	.565***	.568***	.576***	n.s.
H4b/H14b	Informativeness → Purchase Intention	.168**	.156**	.187**	n.s.
H5a/H15a	Effectiveness → Informativeness	.521***	**.458*****	**.532*****	**6.92(.009)**
H5b/H15b	Effectiveness → Site Attitudes	.348***	**.260*****	**.381*****	**3.03 (.08)**
H5c/H15c	Effectiveness → Site Involvement	-.135**	-.160**	-.131**	n.s.
H6/H16	Site Attitudes→ Product Attitudes	.600***	**.711*****	**.492*****	**22.73(.00)**
H7a/H17a	Site Involvement → Site Attitudes	.213***	**.150*****	**.274*****	**3.09(.07)**
H7b/H17b	Site Involvement → Purchase Intention	.483***	.506***	.476***	n.s.
H8/H18	Product Attitudes→ Purchase Intention	.193***	.198***	.168***	n.s.
H9a/H19a	Entertainment → Site Attitudes	.446***	.455***	.487***	n.s.
H9b/H19b	Entertainment → Site Involvement	.250***	**.344*****	**.197*****	**5.33(.021)**
Table 2. Results of the Invariance Tests of the Model between goods and services (*** significant at $p<.001$, ** significant at $p<.01$, *significant at $p<.05$					

3.3. Summary of findings

First, the results of this study support the overall proposed model of online consumer behavior. Majority of the hypotheses in proposed model were supported. The results here illustrated that arousal does not impact customers' perception of site effectiveness, dominance does not impact customers' perception of site informativeness, and the impact of site effectiveness and site involvement is negative. Overall, it can be interpreted that the impacts of each emotional element on customers' perception of atmospheric cues are not similar. Based on the results, pleasure and arousal influence customers' perception of site entertainment and site informativeness; whereas, dominance highly impacts customers' perception of site effectiveness.

Table 2 demonstrates that the impacts of pleasure and arousal on customers' perception of site effectiveness and entertainment are greater for physical goods customers compared to services customers supporting H11b, H11c and H12c. Interestingly, pleasure and arousal are both significantly associated with customers' perception of site informativeness and the associations are invariant between the two groups, failing to support H11a and H12a. Furthermore, in contrast to H13a, H13b, and H13c the impacts of dominance on customers' perception of site atmospheric cues are invariant between the two groups.

The results did not support H14a. Site informativeness is highly associated with site involvement in both groups, but invariant. Also, the impact influence of site informativeness on purchase intention is significant and invariant between the two groups. Therefore, customers' perception of site informativeness is very important for both physical goods and services customers as it leads to site involvement and purchase intention.

In line with H15a and H15b, customers' perception of site effectiveness impacts on site informativeness and site attitude are stronger for services than for physical goods customers. This finding demonstrates again that effectiveness of information content is very important for customers, particularly, for services customers. As a matter of fact, site effectiveness is highly associated with site informativeness. In other words, customers' perception of site effectiveness highly influences their perception of site informativeness. With the same level of information provided in the site, the website that is more effective is perceived as more informative.

Interestingly, site effectiveness negatively impacts site involvement in both groups. The beta coefficient was invariant between the two groups, in contrast with

H15c. It may be interpreted that the earlier the customers obtain the information, the earlier they leave the site and the less they interact with the site features. Further investigation needs to be done to explore this relationship.

The impact of site attitudes on product attitudes is significantly different between services and physical goods customers, supporting H16. As it was expected, the services customers use other sources besides the firm's website to form their attitudes toward the company.

Consistent with H17a, site involvement impact on site attitude is greater for services customers. But, the impact of involvement on purchase intention is invariant between the two groups, failing to support H17b. Furthermore, the impact of product attitudes on purchase intention is invariant between the two groups.

Finally, the results seem to suggest that site entertainment is more important in physical goods websites. Its influence on site attitudes is invariant between the two groups. However, the impact of site entertainment on site involvement is significantly stronger for physical goods customers supporting H19b.

3.4. Conclusion

The results supported the overall proposed model. Out of 20 relationships in the model, 18 were significant. Interestingly, the results demonstrated that half of the significant paths are non-invariant between services and physical goods websites.

Generally speaking, in line with the hypotheses, the results suggested that two elements of emotions –pleasure and arousal –were more influential for physical goods customers. Consequently, physical goods companies should design their website so that it influences customers' pleasure and arousal.

Dominance is important for both services and physical good firms. The impact of dominance on customers' perception of site informativeness was not significant in either group. This element of emotion, however, highly impacts customers' perception of site effectiveness in both groups.

Perception of site effectiveness highly influences customers' perception of site informativeness and site attitudes. This association is significantly stronger for services customers. Therefore, service providers should spend more time on effectiveness of information content.

The results also suggest that customers' attitudes toward the website are highly associated with their attitudes toward the product, which leads to purchase intention. Thus, physical good firms should attempt to increase customer's site attitudes. One option is to increase the site entertainment, which impacts site attitudes and involvement as site entertainment is more influential for physical goods compared to services websites.

CHAPTER 4

STUDY 2: Service Classification

The results of study 1 demonstrate that there are differences between physical goods customers and services customers in their online navigation behavior. Emotions –particularly pleasure and arousal –are found to be more influential for physical goods customers compared to services ones. Also, the association between site attitudes and product attitudes is stronger for physical goods customers. As anticipated, the influences of effectiveness of site information content on customers' perception of site informativeness and site attitudes are more salient for services customers.

Parasuraman and Zinkhan (2002) noted that Internet technology has dramatically changed almost every aspect of business operations. This impact is even greater in services industry. Using the technology, service providers are able to complete all the transactions and exchanges in the virtual store. They can provide information, promotional communications, delivery of services, and money transactions online. Furthermore, the technology allows service providers –such as hotels –to reduce their service intangibility by letting the customers virtually experience the service.

Through content analysis, Furrer and Sollberger (2007) distinguished between the dynamics and evolution of the services marketing literature. They found that technology is one of the two themes "with recent popularity and a healthy growth rate" (p.106). Moreover, service researchers have identified the Internet in particular and technology in general as promising future areas of research (Furrer, 2004). Thus, the second and third studies concentrate on services marketing.

Furthermore, most studies in services marketing have been conducted in specific areas such as the hotel industry (Voss, 1993), the banking sector (Surprenant and Solomon, 1987), the telephone industry (Bolton and Drew, 1991), and financial service sector (Ding et al., 2010) which limit the generalizability of the results. Peterson, Balasubramanian, and Bronnenberg (1997) also noted that the characteristics of goods and services play a key role in determining the suitability of the Internet for marketing to customers. They, then, argued that it is necessary to consider the characteristics of goods and services when evaluating the impact of the Internet. Using a good/service classification may be the best way for such a consideration.

Despite the fact that scholars have emphasized on the value of service classification in marketing (Lovelock, 1983) only a few studies have recognized the importance of this classification. Accordingly, the goal of this study is to validate the proposed model by empirically testing the path invariances across three types of services: search-, experience-, and credence-based services. The similarities and differences among the three service categories are discussed.

The idea of product classification in marketing can be traced back to 1924 when Copeland distinguished between convenience, shopping, and specialty products. Other product classifications such as durable vs. non-durable and expensive vs. inexpensive framework are also found in marketing (Ryans, 1974). Later, based on Stigler's (1961) information search theory, Nelson (1970) classified products into two groups: search versus experience categories. Search refers to the attributes of the product that customers could evaluate prior to purchase. On the other hand, experience refers to those attributes that can be evaluated only after purchase or consumption. Nelson's classification scheme differs from others' as it relies on the

attributes of the product itself and not on the buyer's perceptions of the product (Norton and Norton, 1988). Zeithmal (1981) noted that the intrinsic attributes of search goods or services are easy to access and more objective for comparing the quality of goods or services. However, the extrinsic cues are often used by customers to evaluate the quality of experience-based goods or services (Zeithmal, 1981). As a result, customers rely more on personal experience and the recommendations of others to purchase experience-based rather than search-based goods or services (Nelson, 1970).

Extending the Nelson (1970) framework, Darby and Karni (1973) introduced credence-based products to complete the information acquisition classification. They defined credence attributes as the ones that cannot be judged confidently even after purchase or consumption. For those products, branding and client relationships are mandatory to help establish quality (Darby and Karni, 1973). Scholars in marketing accepted the search, experience, and credence (SEC) classification as it is based on the marketer's communication efforts and consumers' information search. This study adapted the SEC framework to compare and contrast the relationships in the proposed model among different type of services.

The three-product (SEC) classification scheme has been adopted in services marketing (Ostrom and Iacobucci, 1995; Zeithmal, 1981). Ostrom and Iacobucci (1995) found that customers' preferences for service attributes are different for experience- and credence-based services. They reported that customers place greater importance on price for experience-based services and greater importance on quality for credence-based services. Moreover, Mitra et al. (1999) reported that customers' risk perception is the highest for credence-based and the lowest for search-based services. Therefore, compared to experience- and search-based services, credence-

based customers tend to search more for information and rely more on personal information sources (Mitra et al., 1999).

In advertising context, customers are reported to be least skeptical of search-based service providers' claims and the most skeptical of credence-based service providers' claims (Ford, Swasy, and Smith, 1990). This trend could translate into online marketing as well. Customers might be least skeptical of the information provided in a search-based service website and most skeptical of that of a credence-based service website. Also, higher level of customization and more personal intervention of the service providers are needed for credence- than for search- or experience-based services (Guiltinan, 1987; Zeithmal, 1981). The Internet has provided an easily accessible and a low cost source of information for search-based products and it also offers a "virtual experience" for experience- and credence-based products (Klein, 1998).

The level of uncertainty increases from search- to experience- to credence-based services (Murray and Schlacter, 1990). It is more confusing for customers to obtain pre-purchase information to evaluate credence-based services than to evaluate experience- and search-based services. Previous research has shown that customers search for more information to evaluate credence- compared to search-based services (Mitra, Reiss, and Capella, 1999). Nevertheless, customers can not really evaluate the credence- and experience-based services prior to the purchase. They visit the website to obtain as much information as possible. As a result, the impact of emotions – particularly pleasure and arousal –might be more salient for those customers. In other words, pleasure and arousal are expected to impact customers' perception of site

atmospheric cues stronger in experience- and credence-based services than in search-based services.

H21. The impacts of pleasure on customers' perception of *(a)* site informativeness, *(b)* site effectiveness, and *(c)* site entertainment are expected to increase from search- to experience- to credence-based services.

H22. The impact of arousal on customers' perception of *(a)* site informativeness, *(b)* site effectiveness, and *(c)* site entertainment are expected to increase from search- to experience- to credence-based services.

In contrast to credence- and experience-based services, the standardized nature of the search-based service allows customers to know about the consequence of their purchasing decision. Visiting the search-based service website, the customers know what type of information they need to evaluate the service. Therefore, it is expected to find a greater association between "dominance" and customer perception of atmospheric cues for search-based services than the other two groups. In other words, the feeling that the customers are in control would impact the perception of site atmospheric cues stronger when customers know what kind of information are required. Therefore:

H23. The impacts of dominance on customers' perception of *(a)* site informativeness, *(b)* site effectiveness, and *(c)* site entertainment are expected to increase from credence- to experience- to search-based services.

Mitra, Reiss, and Capella (1999) reported that customers' risk perception was the highest for credence-based and the lowest for search-based services. Credence- and experience-based service customers can reduce their risk perception by collecting more information from various sources. More recently, Huang, Lurie, and Mitra (2009) suggested the differences in browsing and purchase behaviors of customer of search and experience goods. They reported that experience goods involve greater depth and lower breadth of search compare to search goods. In other words, the amount of time spend per page is greater for experience goods customers and the number of page searched is greater for search goods customers. It can be interpreted that customers of experience- and credence-based service read all the information provided in the website carefully as they need as much information as possible to reduce the risk. The more information provided in the companies site, the more time the customers spend to read, the more customer involved in the site, and the higher the chance of purchasing the service. On the other hand, customers' of search-based services look for specific pieces of information in each page. Therefore, we expect to find that the customers of experience- and credence-based services appreciate the informativeness of the website; whereas, the customer of search-based services value the effectiveness of information content.

H24. The impacts of site informativeness on *(a)* site involvement and *(b)* purchase intention are expected to increase from search- to experience- to credence-based services.

H25. The impacts of site effectiveness on *(a)* site involvement and *(b)* site attitudes are expected to increase from credence- to experience- to search-based services.

Purchasing a credence-based service is much riskier than a search-based service. A higher level of customization and a more personal intervention of the service providers were needed for credence- than for search- or experience-based services (Guiltinan, 1987). Therefore, customers of credence-based services, and to some extent experience-based services, tend to rely more on their previous experience than commercial advertisements to develop their attitudes toward the service providers. Given the fact the companies' website can be perceived as a "commercial medium", the impact of site attitudes on service attitudes is expected to be the strongest for search-based services.

H26. The association of site attitudes and service attitudes is expected to increase from credence- to experience- to search-based services

Customers of search-based group tend to look for specific information to evaluate the service and make the purchasing decision. On the other hand, customers of the other two groups tend to go beyond the commercial information from the companies' website and search for more information from other sources. Therefore, the association of site involvement on site attitude and purchase intention is expected to be the strongest for customers of search-based services.

H27. The impact of site involvement on a) site attitudes and b) purchase intention is expected to increase from credence- to experience- to search-based services.

Uncertainty is part of credence-based services (Murray and Schlacter, 1990). It is more confusing for customers to obtain pre-purchase information to evaluate

credence-based services than to evaluate experience- and search-based services. Compared to experience- and search-based services, customers tend to search more for information and rely more on personal information sources for credence-based services (Mitra, Reiss, and Capella, 1999). Therefore, the association of customers' attitudes toward the service provider and purchase intention is expected to be the greatest for credence-based services compared to the other two groups.

H28. The impact of service attitudes on purchase intention is expected to increase from search- to experience- to credence-based services.

Finally, the purpose of site entertainment is to provide an environment that encourages customers stay longer and explore different features of the website more. Using flashy and graphical information can even help customers to evaluate the services easier. An entertaining website would encourage the customers of credence- and experience-based service to be involved more with the website and impact their site attitude. On the other hand, customers of search-based services know what type of information they need. The level of the site entertainment is not expected to impact their site attitudes and involvement as much as it does for the other two groups. Therefore, the next hypothesis is:

H29. The impacts of site entertainment on site attitudes and site involvement are expected to increase from search- to experience- to credence-based services.

4.1. Methodology

4.1.1. Site Selection and Data Collection

For testing the hypotheses, the investigators prepared and gave a list of service industries along with the definition of search-, experience-, and credence-based services. Their task was to assign each service to one of the three categories. The services that were assigned to the same category by both judges were selected. Based on that criterion, this study employs hotels and online bookstores for search-based, dental services and restaurants for experience-based, and financial investments and plastic surgery for credence-based services.

The majority of the selected services for each category were in line with those of previous studies. Hsieh, Chiu, and Chiang (2005) used online bookstores to represent search-based services. Restaurants were previously used as experience-based services (Ostrom and Iacobucci, 1995; Mitra, Reiss, and Capella, 1999). Finally, financial investments were examined as representative of credence-based services (Ostrom and Iacobucci, 1995).

Contrary to previous studies, both judges considered hotels as search-based services. The fact that hotels tend to tangibilize their services online might explain this shift. Given the definition of search-based services, this result is not surprising. With the new technology, many service providers are now able to tangibilize their services. Hotels are able to offer the opportunity to the customers to virtually experience their stay in the resort. This will allow customers to evaluate the service prior to the purchase.

To address this controversy and validate the manipulation, a new scale was developed to measure search and experience dimension of each service (see Table 3). The respondents were asked to evaluate those dimensions after responding to all

questions. Six point Likert scales were employed to indicate the respondent's levels of agreement or disagreement with each closed-ended question.

	Items
Search Dimension	I can easily evaluate this service without having to try it
	I can evaluate this service just by reading a description of it on this site
	This service is very easy to evaluate beforehand
	For this product, relevant attribute information can be easily obtained prior to purchase
Experience Dimension	I am not able to judge this service without first trying it
	Only after I have used this service, I can evaluate its benefits
	I would not be confident of purchasing this service without trying it
	I need to use this product first to be able to evaluate it

Table3. Items for Search and Experience Product Evaluation

Students appear to be appropriate subjects for the purpose of this study as the online consumers are generally younger, more educated and more affluent than general population (Hanson, 2000). Thus, data were collected online using a computer lab in a large Northeastern university.

This study selected four websites for dental services, four sites for hotels, three sites for restaurants, two sites for online bookstores, two sites for financial investments, and four sites for plastic surgery. The subjects were randomly assigned

to one of the nineteen websites. They were exposed to a real website of a service company and were asked to fill out a questionnaire after visiting that website.

In total, 1998 subjects participated in this study. We eliminated the respondents who failed to answer at least 50% of the questions. Also, to control biases based on prior website visits, we eliminated the ones that had visited the assigned website before (Wang, Beatty, and Mothersbaugh, 2009). Overall, 1784 valid responses (50% males and 50% females) were collected for the analysis. Eighty percent of the respondents were between 18 and 24 and 13.5% were between 25 and 34 years of age.

4.1.2. Measurement

The questionnaire contained several measures addressing the research questions. This study adopted Mehrabian and Russell's (1974) PAD scale to measure three emotional dimensions: pleasure, arousal, and dominance. Chen and Wells (1999) scales were used to measure website entertainment (4 items) and informativeness (4 items). The effectiveness of information content of the websites was measured by a 5-item scale adopted from Bell and Tang (1998). Eighmey (1997) scale for attitudes was modified to a 5-item scale for website and service attitudes. Website involvement was measured by a 6-item scale from Muehling, Stoltman, and Grossbart (1990). Finally, a 4-item scale for purchase intentions was adopted from Dodds (1991).

4.2. Results

4.2.1. Manipulation Checks

The respondents were asked to evaluate the services on two dimensions of "search" and "experience" to confirm the site selections. First, we an EFA on all eight items was ran. All items loaded properly (ranging from .78 to .91 for search and .76 to .90 for experience dimension) on the intended factors. The cross loadings were all below .10 and Cronbach's alphas for search and experience product evaluations were .89 and .87 respectively. However, the results of the CFA indicated a poor fit for this scale (chi square/df >10). Looking at the results of the CFA, one item from each dimension was dropped. This modification produced an acceptable fit: the chi square, NNFI, CFI, and RMSEA have values of 27 (df=8), .992, .996, and .037 respectively. The Average Variance Explained (AVE) is .765 for the search dimension and .627 for the experience dimension indicating convergent validity. The square correlation between two factors (search and experience) is .151 which is lower than the AVE indicating discriminant validity (Table 4).

	Components		
Items	**Search**	**Experience**	**R-Square**
I can easily evaluate this product without having to try it	.88		.77
I can evaluate this product just by reading a description of it on this site	.91		.82
This product is very easy to evaluate beforehand	.84		.71
I am not able to judge this product without first trying it		.89	.80
Only after I have used this product, I can evaluate its benefits		.85	.72
I would not be confident of purchasing this product without trying it		.61	.37
Table4. Results of CFA for Search and Experience Product Evaluations			

The means for the search evaluation dimensions of the search-based services (online bookstores and hotels) were 3.83 and 3.70, respectively, and were significantly higher than those of the other two services ($p<.05$), see table 5. Similarly, the means for the experience evaluation dimension of the experience-based services (restaurants and dental services) were 4.22 and 4.30 and were significantly higher than those of the other services ($p<.05$). The mean for experience evaluation of the credence-based services (financial investments and plastic surgery) were 3.91 and 3.78 which were not significantly different than those of search-based services. The mean for search evaluation of credence-based services were 3.03 and 2.80 and were significantly lower than those of the experience-based services ($p<.10$). Nevertheless, it can be interpreted that the categorization manipulation for this study was successful and that the selected services were representative of the three categories.

Type of Service	Industry	Search	Experience
Search	Online Bookstore	3.83	3.47
	Hotel	3.70	3.65
Experience	Restaurant	3.14	4.22
	Dental Services	3.33	4.30
Credence	Financial Investment	3.03	3.91
	Plastic Surgery	2.80	3.78
Table 5. Results of Manipulation Check			

4.2.2. Test of Reliability and Confirmatory Factor Analysis (CFA)

Given the high number of variables used in the model, we first ran an exploratory factor analysis (EFA) on all 47 items. In line with study 1, results of EFA

demonstrate that all items, except two, have high primary loading (higher than .61) and low cross loadings (lower than .35). Two items of arousal were eliminated because of cross loadings (see Appendix 1). The Cronbach's alphas for all constructs were in the acceptable range (see Table 6).

Constructs	Cronbach's α
Arousal	0.83
Pleasure	0.89
Dominance	0.89
Site Informativeness	0.92
Site Effectiveness	0.90
Site Entertainment	0.93
Site Attitudes	0.95
Site Involvement	0.95
Service Attitudes	0.95
Purchase Intention	0.92
Table6. Cronbach's alpha	

Confirmatory factor analysis was run for the factor model including all 10 variables. The results of the CFA demonstrate the goodness of fit for the measurement model: the chi square, NNFI, CFI, and RMSEA have values of 4332 (df=1025), .984, .986, and .047 respectively. Given the number of analyzed items and factors, the model fit parameters are in the acceptable range (Baumgartner and Homburg, 1996).

To test the model, it is crucial to test for convergent and discriminant validity. For convergent validity, average variance explained (AVE) by each factor was calculated (second column in Table 7). All factors had AVE higher than .50 demonstrating that a construct share more variance with its indicators than with error

variances (Fornell and Larker, 1981). We compared the correlations between factors and square root of the AVE to evaluate discriminant validity (see Table 7). The square root of AVE for each factor was greater than the correlations between that factor and all other factors, exhibiting appropriate discriminant validity (Fornell and Larker, 1981).

4.2.3. Test of the Proposed Model

This study employed EQS 6.1 to test the model. First, the proposed model was tested with the pooled data and it fitted the data very well. The goodness of fit indicators for the model are in the acceptable range: the chi square, NNFI, CFI, and RMSA have values of 4104 (df =757), .981, .983 and .050 respectively.

The results provided strong support for the overall conceptual model (Figure 1) and supported all the hypotheses, except two (see the first column of Table 8). Similar to the results of study 1, the impact of arousal on the effectiveness of information content is not significant (H22b) and the impact of site effectiveness on site involvement is negative (H25b). All the other hypotheses are supported.

	AVE	Pleasure	Arousal	Dominance	Informativeness	Effectiveness	Entertainment	Site Attitudes	Site Involvement	Service Attitudes	Purchase Intention
Pleasure	*0.68*	**0.82**									
Arousal	*0.73*	0.53	**0.85**								
Dominance	*0.62*	0.37	0.17	**0.79**							
Informativeness	*0.74*	0.54	0.40	0.36	**0.86**						
Effectiveness	*0.64*	0.51	0.26	0.61	0.63	**0.80**					
Entertainment	*0.72*	0.68	0.53	0.44	0.59	0.50	**0.85**				
Site Attitudes	*0.78*	0.69	0.42	0.44	0.57	0.61	0.69	**0.88**			
Site Involvement	*0.82*	0.54	0.44	0.14	0.60	0.35	0.53	0.54	**0.91**		
Service Attitudes	*0.81*	0.54	0.33	0.30	0.50	0.48	0.47	0.62	0.54	**0.90**	
Purchase Intention	*0.74*	0.46	0.39	0.14	0.57	0.35	0.47	0.49	0.66	0.57	**0.86**

Table7. Square root of the AVE are on diagonal (bold) and the correlations among factors are off-diagonal.

4.2.4. Invariance across Groups

To test the hypotheses and compare the strengths of the relationships among the variables across search-, experience-, and credence-based services, this study utilizes multiple group analysis in EQS. In order to test the hypotheses, we used the results of Multivariate Lagrange test. The Univariate Lagrange test provides an evaluation of the necessity of a given constraint; whereas, the multivariate test determines a simultaneous effect of several restrictions in the model. Hence, results of Multivariate test are more reliable than Univariate test.

The null hypothesis for each constraint is that the constraint is true in the population involved. Therefore, the low probability value of the Lagrange test statistic indicates that the constraint is unreasonable. The results of the multivariate Lagrange test are presented on Table 8.

4.3. Summary of Findings

Results of the multiple group analyses suggested that all the 18 out of 19 paths are significant in at least one group. However, the strengths 13 out of 19 of those paths are not invariant across the service types. This again demonstrates the importance of service classification.

Moreover, the results suggested that the impacts of the three emotional components vary across groups. Generally speaking, pleasure has stronger impacts on customers' perception of site informativeness, effectiveness, and entertainment in experience- and credence-based services compared to search-based services. The impacts of arousal on other variables are mixed. In line with H22a, the association of customer arousal and perceived site informativeness is the greatest for credence-based services. However, similar to the results of study 1, the association of customer

arousal and perceived site effectiveness is not supported. Furthermore, the impact of arousal on customers' perception of site entertainment is invariant across groups, failing to support H22c.

In line with H23, the results suggested that the impacts of dominance on customers' perception of site atmospheric cues –site informativeness, site effectiveness, and site entertainment –are the strongest for search-based services compared to the other two groups.

Interestingly, the impacts of site informativeness and site effectiveness on site attitudes, site involvement, and purchase intention are not consistent with the hypotheses H24 and H25. The influences of site informativeness on site involvement and purchase intention are found to be invariant across three groups. Furthermore, in contrast to H25, the impact of effectiveness of information content on site attitudes is found to be stronger for the experience- and credence-based services compared to the search-based ones. This study used the real service providers' websites and did not control for the type of information presented in the site. That might contribute to the results. Further research is necessary to investigate those relationships.

Proposed Model/ Groups	Structural Path	Standardized β values				Path Differences: χ^2(p-value)		
		Pooled	Search	Experience	Credence	S vs E	S vs C	E vs C
H1a/H21a	Pleasure→ Informativeness	.420***	.283***	.499***	.395***	**5.3(.021)**	1.42(.23)	.77(.38)
H1b/H21b	Pleasure→ Effectiveness	.353***	.228***	.381***	.370***	**5.26(.025)**	**4.59(.03)**	.33(.57)
H1c/H21c	Pleasure→ Entertainment	.501***	.394***	.531***	.509***	**2.69(.10)**	1.54(.21)	.54(.46)
H2a/H22a	Arousal→ Informativeness	.161***	.192***	.063n.s.	.260***	1.85(.174)	**6.8(.01)**	**6.75(.01)**
H2b/H22b	Arousal→ Effectiveness	-.002n.s.	.007n.s.	-.021n.s.	.020n.s.	.017(.89)	.00(.98)	.01(.91)
H2c/H22c	Arousal→ Entertainment	.226***	.225***	.226***	.229***	.25(.62)	.06(.81)	.07(.80)
H3a/H23a	Dominance→ Informativeness	.197***	.299***	.191***	.145***	**2.90(.08)**	.92(.34)	**3.14(.08)**
H3b/H23b	Dominance→ Effectiveness	.498***	.594***	.520***	.393***	2.09(.14)	**4.98(.03)**	**4.74(.03)**
H3c/H23c	Dominance→ Entertainment	.222***	.339***	.189***	.181***	**4.19(.04)**	**2.98(.08)**	1.30(.25)
H4a/H24a	Informativeness → Site Involvement	.467***	.508***	.450***	.480***	2.05(.15)	1.27(.26)	.063(.80)
H4b/H24b	Informativeness → Purchase Intention	.192***	.239***	.181***	.170***	.63(.43)	1.15(.28)	1.41(.23)
H5a/H25a	Effectiveness → Site Attitudes	.309***	.268***	.328***	.346***	**2.53(.10)**	**2.56(.10)**	.23(.63)
H5b/H25b	Effectiveness → Site Involvement	-.087**	-.084n.s.	-.176***	-.021n.s.	**2.69(.10)**	.33(.56)	**3.74(.05)**
H6/H26	Site Attitudes→ Service Attitudes	.662***	.780***	.566***	.594***	**14.75(.00)**	**11.2(.001)**	.65(.42)
H7a/H27a	Site Involvement → Site Attitudes	.232***	.322***	.141***	.234***	**4.79(.03)**	**3.47(.06)**	**3.81(.05)**
H7b/H27b	Site Involvement → Purchase Intention	.435***	.489***	.466***	.358***	.64(.85)	**10.4(.001)**	**10.5(.001)**
H8/H28	Service Attitudes→ Purchase Intention	.257***	.131**	.220***	.324***	.94(.33)	1.95(.14)	1.86(.17)
H9a/H29a	Entertainment → Site Attitudes	.463***	.439***	.483***	.440***	.42(.52)	.191(.66)	.07(.80)
H9b/H29b	Entertainment → Site Involvement	.326***	.214***	.412***	.260***	**5.73(.02)**	.02(.88)	**2.58(.10)**

Table8. Results of the Invariance Tests of the Model across the three Types of Services
(*** significant at p<.001, ** significant at p<.01, *significant at p<.05)

Similar to study 1, the result suggested that the impact of site effectiveness on site involvement is negative (H5b). This negative association is significant in experience-based services. It can be justified that the effectiveness of information content may allow customers to obtain the required information faster and more conveniently. In many cases, the faster visitors get their required information, the faster they leave the website and the lower is their level of involvement. More research needs to be done to assess this finding.

Consistent with H26, the association of site attitudes and service attitudes is found to be strongest for search-based services. The path is invariant between search- and credence-based services.

The results suggested that the impacts of site involvement on site attitude and purchase intention are stronger for search-based services compared to the other two groups, supporting H27. The impact of site involvement on purchase intention is invariant between search- and experience-based services, but is significantly higher than that of credence-based services, partially supporting H27b.

Consistent with the overall model, service attitudes is positively associated with purchase intention in all groups. However, the paths are invariant across the groups, failing to support H28. In this study, customers form attitudes toward the service providers by visiting the website, and not by experience. That might explain why the beta coefficients are not significantly different across the groups.

Customers' perception of site entertainment impacts site attitudes and site involvement in all three groups. The association between entertainment and site attitudes is invariant across the three groups. Interestingly, the influence of entertainment on site involvement is the strongest in experience-based services, partially support H29b.

The risk involve in purchasing an experience-based service fall between that of search- and credence-based services. The results suggest that the impact of entertainment on customers' attitudes and involvement is the greatest when the risk involved in purchasing a service is moderate. If the risk is too high, the customers pay more attention to the information provided in the website rather than the entertainment. Therefore, site informativeness and effectiveness are more important. If there is too little risk involved, site informativeness plays a key role.

4.3. Conclusion

This study, similar to the previous one, supports the overall proposed model. Using the pooled data, 18 out of 19 hypotheses are found to be significant. Similar to the results of study 1, the only non-significant path is the link between arousal and site effectiveness. Furthermore, it is again found that site effectiveness is negatively associated with site involvement. This negative association is significant only in experience-based service group.

More importantly, the findings demonstrate that the strengths of the majority of the structural paths (13 out of 19) are noninvariant between at least two groups. Out of nineteen paths in the model, 10 are non-invariant between search- and experience-based services, 8 between search- and credence-based services, and 7 between experience- and credence-based services. Once again, the results illustrate the importance of service categorization in analyzing the data and interpreting the results.

On the basis of the findings presented in the previous section, one may explain the process of online customer behavior for each type of service as follows:

1. Search-based services: In search-based sites, the impacts of dominance on the other cognitive and affective variables (i.e. site informativeness, effectiveness, and

entertainment) are the greatest among the three service types. Therefore, "controlling", "influential", or "autonomous" feelings are very important for search-based service customers. Moreover, site informativeness had a strong impact on site involvement, and entertainment has a strong impact on site attitudes. In turn, site attitudes have strong impact on service attitudes. Purchase intentions are influenced by service attitudes, strongly by site involvement, and by informativeness. In summary, visitors of search-based services, not only use the traditional search model (starting with effectiveness and ending with purchase intentions), but also take advantage of the affective aspects of site navigation (starting with emotions, through entertainment, site involvement leading to site attitudes and purchase intentions). Thus, website designers should make sure that for these types of services both the utilitarian and the hedonic aspects of the website are effectively represented.

2. *Experience-based services:* The most influential component of emotions in experience-based websites is pleasure. It strongly impacts customers' perceptions of site informativeness, effectiveness, and entertainment. Moreover, site entertainment is the most important variable in experience-based websites. It highly impacts site attitudes and involvement; which, in turn impacts purchase intentions. Effectiveness of information content reduces the customer's site involvement. Therefore, it can be inferred that in experience-based websites, site entertainment is more important than site effectiveness. Thus, website designers should work very hard to generate more hedonic aspects for the website, and stimulate a higher site involvement. Moreover, the results also indicated that the correlations among the components of emotion are the highest in experience-based services. Therefore, web designers should test for customers' pleasure, arousal, and dominance reactions before launching the website.

3. Credence-based services: For these types of services, pleasure and arousal are both important variables. Compared to other service types, the impact of arousal on site informativeness is the greatest in credence-based services which leads to site involvement and purchase intentions. Effectiveness of information content is very important for credence-based services as it impacts site attitudes while it does not reduce site involvement. In sum, for visitors of the credence-based services, the key to success is to generate positive service attitudes, which will translate into higher purchase intentions, through a combination of effectively providing information on the service and generating positive site attitudes through entertainment. Web designers must meet these challenges for credence-based services.

CHAPTER 5:

Study3. Role of Culture

Investigating the role of culture in online marketing is extremely important as one of the unique characteristics of the Internet is the wide reach. Technology allows customers from all around the world to go to the firm's website and purchase a product or obtain information. Therefore, assessing the influence of culture on customers' responses to the store atmospherics would provide a meaningful insight for companies to design their website more effectively.

Culture is an obstacle for generalizing the findings; and replications of studies should be considered in other cultures to observe similarities and differences. Culture reflects the preferences and attitudes of people. Tse et al. (1988) mention that "culture may provide detailed prescriptions (norms) for specific classes of situations…" (p. 82). Thus, Most cross-cultural studies report differences across cultures (e.g. Aaker, 2000; Moon, Chadee and Tikoo, 2008; Steenkamp, Hofstede, and Wendel, 1998; Takada and Jain, 1991). Particularly, culture is an influential element in responses to store atmospherics (Davis, Wang, and Lindridge, 2008). Therefore, testing the model across cultures is worthwhile.

Hofstede (1991) defined culture as the "collective programming of the mind which distinguishes the members of one group or category of people from those of another" (p. 4). Most marketing studies adopt this framework in which national cultures are differentiated on five dimensions: power distance, masculinity/femininity, long-term/short-term orientation, uncertainty avoidance, and individualism/collectivism. China and Canada obtained different scores on almost all dimensions (see Table 9). This study uses four dimensions to hypothesize the

difference between these two cultures. Masculinity-femininity dimension was not used in this study as both countries falls in the middle of this scale.

Dimensions	Canada	China
Power Distance	39	80
Masculinity	52	66
Long-Term Orientation	23	118
Individualism	80	20
Uncertainty Avoidance	48	30
Table 9. Hofstede Scores for Canada and China		

Individualism is the extent to which the members of a society pursue primarily their own interests rather than that of others (Hofstede, 1991). In collectivist societies individuals look after the interests of their group before themselves. Individualist customers are high on self reliance, competitiveness, aggressive creativity, conformity, and insecurity (Hsu, 1983). Canada scores high and China scores low on this dimension.

Many studies in psychology compare the role of emotions across cultures. In general, emotional features are stronger in individualistic societies (e.g. Schimack et al., 2002). Hsu (1983) uses "low emotionality" as one characteristic of collectivism. Moreover, Triandis (1995) states that collectivism emphasizes social norms and duty defined by the group rather than "pleasure" seeking. Steenkamp and Geyskens (2006) hypothesize that in individualistic cultures, the effect of emotional experience is larger than in collectivistic cultures. They use two dimensions of emotions (pleasure and

arousal) and find support for "pleasure". Based on previous studies, we hypothesize that:

H31: The impact of pleasure on *(a)* site informativeness, *(b)* site effectiveness, and *(c)* site entertainment is stronger for Canadian customers compared to their Chinese counterparts.

H32: The impact of arousal on *(a)* site informativeness, *(b)* site effectiveness, and *(c)* site entertainment is stronger for Canadian customers compared to their Chinese counterparts.

Power Distance is the extent to which a society accepts unequal distribution of power (Hofstede, 1991). Larger power distance implies a greater tolerance of disparity of distribution of wealth and power in a society. China scores high and Canada scores low on power distance dimension. At work, the role of the manager in a high power distance culture is to initiate structure and tell people what to do rather than ask for their views. Therefore, in high power distance societies people are more task-oriented and less people-oriented (Hofstede, 1980). Thus, in the online context, dominance should be the most influential element for the customer in a high power distance society. In other words, for task-oriented customers, feeling of "control" in doing the task is more important compared to people-oriented customers. The task is to obtain the required information from the website.

H33: The impact of dominance on *(a)* site informativeness, (b) site effectiveness, and (c) site entertainment is stronger for Chinese customers compared to their Canadian counterparts.

Long-term orientation is the extent to which members of a society place great significance on the values of thrift, persistence, and long term alliances (Hofstede, 1991). Societies with short-term orientation value personal steadiness and stability, saving face, favors, and gifts (Hofstede, 1991). For Hofstede (1991), China scores the highest in long-term orientation and Canada's score is among the lowest. Furrer, Liu, and Sudharshan (2000) find that long term orientation associate with responsive and reliable service. Thus, customers in long-term oriented societies have higher expectations about the amount of information and effectiveness of information provided in the website. In other words, the influences of site informativeness and site effectiveness on other variables–site involvement, site attitude, and purchase intentions–are stronger for Canadians than for Chinese.

In addition, Canada scores higher in uncertainty avoidance than China (Hofstede, 1991). *Uncertainty avoidance* is the extent to which members of a society feel threatened by uncertain or unknown situations (Hofstede, 1991). Customers in a high uncertainty avoidance culture tend to avoid uncertain situations. People with low uncertainty avoidance have more tolerance for risk. Canada marginally scores higher than China (see Table 9). Therefore, Canadians would attempt more to minimize uncertainty. Seeking and collecting additional information is a strategy to reduce the level of uncertainty and risk involved in purchasing decisions (Murray, 1991). Therefore, the impacts of site informativeness and effectiveness of information content on site attitudes, site involvement, and purchase intentions are higher for Canadians compared to the Chinese.

Individuals from different cultures tend to focus on different types of cues (Mattila, 1999). Individualism emphasizes more individual responses to context rather than context and cues. Considering the nature of individualism and collectivism,

Davis, Wan, and Lindridge (2008) find that high task cues–the site descriptors on the screen which facilitate shopping goal attainment–are more central to the decision-making process for individualistic customers. This discussion of the three cultural dimensions informs the following hypotheses:

H34: The impact of site informativeness on *(a)* site involvement and *(b)* purchase intention is greater for Canadians than for the Chinese.

H35: The impact of site effectiveness on *(a)* site attitudes, *(b)* site involvement, and *(c)* site informativeness is greater for Canadians than for the Chinese.

The symbolic-subjective culture of collectivism is context sensitive; therefore, collectivistic customers rate the low task cues –the site descriptor that are inconsequential to the completion of shopping task –as more helpful (Davis, Wan, and Lindridge, 2008). The influence of site entertainment, a low taks cue, on site attitudes and involvement are likely to be stronger for Chinese than for Canadian:

H39. The impact of site entertainment on *(a)* site attitudes and *(b)* site involvement is greater for Chinese customers compare to their Canadian counterparts.

Compared to Canada, China scores higher on "long-term orientation." Long-term oriented individuals emphasize persistence and long-term alliances (Tsikriktsis, 2002). Collectivism is a high context culture and emphasizes causal reasoning and forming perceptions about social contexts and situational constraints (Davis, Wan, and Lindridge, 2008). As a result, the associations of site attitudes with service

attitudes and site involvement with site attitudes are likely to be higher for Chinese customers.

H36. The impact of site attitudes on service attitudes is greater for Chinese customers compare to their Canadian counterparts.

H37a. The impact of site involvement on site attitudes is greater for Chinese customers compare to their Canadian counterparts.

Individualistic customers tend to make their decisions based on their own interests. In an individualistic society, attitudes and behaviors are regulated by individual preferences (Triandis, 1989). On the other hand, attitudes and behaviors in a collectivist society are largely influenced by society's preferences (Triandis, 1989). Therefore, we argue that Canadians make their purchasing decisions faster. If they like the service (higher attitudes) and are involved in the website, the chance that they would purchase the product or service is higher. For the Chinese, purchasing decisions are more complex. They have to consider their group interests beside their own.

Therefore, the impacts of service attitudes and site involvement on purchase intentions are likely to be greater for Canadians.

H37b: The impact of site involvement on purchase intentions is greater for Canadians than for Chinese.

H38: The impact of service attitudes on purchase intentions is greater for Canadians than for Chinese.

Masculinity-Femininity dimension refers to the ways sex roles are allocated in the culture (Hofstede, 1991). Cultures which minimize the distinctions between sex roles, emphasize the quality of life are categorized as "feminine". In those cultures, emphasize is more on relationships, concerns for others, and interdependence; whereas, in masculine societies, individuals emphasize differentiated gender roles, performance, ambition, and independence. China scored marginally higher on this dimension than Canada. Given that both countries falls in the middle of the masculinity-femininity scale, no differences is anticipated on this dimension.

5.1. Methodology

5.1.1. Data Collection

This study aims at comparing the behavior of online customers in two cultures. To reduce biases cause by the nature of the product, we chose service industry for this study. Similar to study 1 and study 2, real websites of service providers in 8 industries were selected: hotels, online bookstores, dental services, banks, vacation destination, restaurants, financial investments, and plastic surgery. Four websites for dental services, two for online bookstores, four for restaurants, two for financial investments, four for hotels, four for plastic surgery, three for vacation destinations and two sites for banks were selected.

Similar to the other two studies, data were collected online using a computer lab in a Northeastern university. Subjects were randomly assigned to one of the twenty five websites. Beside the dental services, the percentage of participants assigned to each industry was equal between the two groups (see Table 10). So, the product type should not play a role here.

	Canadian	Chinese
Dental Service	13.2%	21.3%
Online Bookstore	1.1%	2.6%
Restaurant	9.5%	8.9%
Financial Investment	8.9%	9.8%
Hotel	18.3%	15.7%
Plastic Surgery	22.6%	17.4%
Vacation Destination	13.5%	12.8%
Bank	12.9%	11.5%
Total	100.0	100.0

Table10. Percentage of participants assigned to each industry

Respondents were exposed to a real website of a company and were asked to surf the site and collect information for at least 5 minutes. The duration of completing the survey was monitored and the subjects who visited the site and completed the questionnaire in less than 15 minutes were eliminated. Again, respondents who failed to complete at least 50% of the survey or had visited the website before were dropped. After the eliminations, our sample consisted of 234 Chinese (54% female and 46% male) and 350 Canadians (58% female and 42% male) subjects. Most respondents were undergraduate students (98.3% of Chinese and 98.9% of Canadians) between the ages of 18 and 24 (75% of Chinese and 80% of Canadians).

5.1.2. Measurement

Similar to the previous studies, most scales were adapted from the literature. Mehrabian and Russell's (1974) PAD scale for emotions is used to measure pleasure,

arousal, and dominance. Chen and Wells' (1999) scales are used to measure website

entertainment (4 items) and informativeness (4 items). Effectiveness of information

content is measured by a 5-item scale adopted from Bell and Tang (1998). Eighmey's

(1997) scale for attitudes was modified to a 5-item scale for website and service

attitudes. Website involvement is measured by a 6-item scale (Muehling, Stoltman,

and Grossbart, 1990). Finally, a 4-item scale for purchase intentions is adopted from

Dodds (1991). Five-point Likert scales are employed to indicate the respondent's

levels of agreement or disagreement with each statement.

5.2. Results

5.2.1. Test of Reliability and Confirmatory Factor Analysis (CFA)

Consistent with study 1 and study 2, the results of EFA demonstrated that all

items, except two, have high primary loading (higher than .60) and low cross loadings

(lower than .35). Again, the two items of arousal were eliminated because of cross

loadings (see Appendix 1). The Cronbach's alphas for all constructs are in the

acceptable range (see Table 11).

Then, we ran CFA by specifying the factor model including all 10 variables

used. The loadings for all items are in the acceptable range. The results of the CFA

demonstrate good measurement fit: the chi-square, NNFI, CFI, and RMSEA have

values of 1773(df=734), .981, .983, and .049. Given the number of analyzed items and

factors, the model fit parameters are in the acceptable range (Baumgartner and

Homburg, 1996).

Constructs	Cronbach's α
Arousal	.821
Pleasure	.902
Dominance	.879
Site Informativeness	.925
Site Effectiveness	.896
Site Entertainment	.933
Site Attitudes	.932
Site Involvement	.969
Service Attitudes	.958
Purchase Intention	.936
Table 11. Cronbach's alpha	

For convergent validity, the average variance explained (AVE) by each factor is calculated (second column, Table 12). All factors have AVE higher than .50 demonstrating that a construct share more variance with its indicators than with error variances (Fornell and Larker, 1981). For discriminant validity, the correlations between factors and square root of the AVE are compared (Table 12). The square root of AVE for each factor is greater than the correlations between that factor and all other factors, exhibiting appropriate discriminant validity (Fornell and Larker, 1981).

	AVE	Pleasure	Arousal	Dominance	Informativeness	Effectiveness	Entertainment	Site Attitudes	Site Involvement	Service Attitudes	Purchase Intentions
Pleasure	*0.71*	**0.84**									
Arousal	*0.76*	0.46	**0.87**								
Dominance	*0.60*	0.33	0.16	**0.77**							
Informativeness	*0.76*	0.53	0.35	0.31	**0.87**						
Effectiveness	*0.64*	0.51	0.26	0.46	0.54	**0.80**					
Entertainment	*0.74*	0.56	0.52	0.41	0.58	0.49	**0.86**				
Site Attitudes	*0.73*	0.56	0.40	0.40	0.58	0.62	0.63	**0.85**			
Site Involvement	*0.85*	0.54	0.39	0.18	0.56	0.39	0.51	0.56	**0.92**		
Service Attitudes	*0.82*	0.48	0.26	0.22	0.47	0.44	0.45	0.61	0.47	**0.91**	
Purchase Intention	*0.79*	0.49	0.43	0.18	0.56	0.34	0.50	0.50	0.60	0.50	**0.89**

Table 12.Square root of the AVE are on diagonal (bold) and correlations among factors are off-diagonal.

5.2.2. Tests of the Proposed Model

Similar to the previous studies, EQS 6.1 was employed to test the model. The proposed model was tested with the pooled data and it fitted the data very well. The goodness of fit indicators for the model are in the acceptable range: the chi square, NNFI, CHI, and RMSA have values of 3408 (df= 1750), .978, .976, and .041 respectively.

The results provided strong support for the overall conceptual model. Majority of the proposed relationships (18/20) were significant in at least one culture. Again, the impact of site arousal on site effectiveness (H32b) and the impact of site effectiveness on site involvement (H35a) are not significant. Interestingly, the results suggest that dominance negatively influence customers' perception of site informativeness, contradictory to H33a.

5.2.2. Invariance across Groups

To test the hypotheses and compare the strengths of the relationships among the variables between the two groups, multi-group analysis in EQS was utilized. The first step for such a comparison is to examine the factor loading invariance between the groups (Bollen, 1989). As a result, measurement level constraints were introduced before testing the casual path invariance (Byrne, 1994). Table 13 summarizes the results.

Fit parameters demonstrate a good fit for all models. Model 1 is the least restrictive, and models 2 to 4 are nested in model 1. When we constrain all the loadings, the model does not significantly improve. The multivariate $LM\chi^2$ statistics and related p-values reveal two non-invariant factor loadings: one items of dominance

and one item of site attitudes. Releasing these two constraints (Model 3) produce a satisfactory measurement model that is invariant across the two groups. The Chi-square difference between model 3 and the baseline model is 36 with 29 degree of freedom (*p*>.10). Therefore, partial metric invariance is supported.

	Model	χ^2	df	χ^2/df	$\Delta\chi^2$ from model 1	Δdf from model 1	*p*-value	NNFI	CFI	RMSEA
1	Base Model: No constraint	2937	1510	1.94	0	0	1	.977	.979	.040
2	Factor Loading Invariance	3001	1541	1.95	64	31	.000	.977	.979	.041
3	Partially Factor Loading Invariance	2973	1539	1.93	36	29	.21	.978	.979	.040
4	Structural Path Invariance	2993	1531	1.95	56	21	.000	.977	.979	.041
Table 13. Test of measurement invariance between the two groups										

By constraining the paths to be invariant across the two groups, the model does not improve (Model 4 in Table 13). Therefore, the paths are non-invariant. After testing the measurement invariance across groups, the Lagrange test is used to find the differences (Bentler, 2004). The multivariate test determines a simultaneous effect of several restrictions in the model and is used to test the hypotheses. The null hypothesis for each constraint is that the constraint is true in the population involved. Therefore, the low probability value of the Lagrange test statistic indicates that the constraint is unreasonable. The results of the multivariate Lagrange test are presented on Table 14. All hypotheses are directional.

The results, again, supported the proposed model. Majority of the proposed relationships (18/20) were significant in at least one culture; however, the strengths of the paths are not invariant across the groups. Similar to the previous studies, the results suggested that customers' arousal does not impact their perception of site

effectiveness. The negative association between site effectiveness and site involvement was found in this study as well. However, they were not significant at the p-value of .05. Furthermore, the influence of dominance on site informativeness was negative for Canadian group and was not significant for Chinese customers.

Proposed Model/ Groups	Hypothetical Path	Pooled	Chinese	Canadian	Path Differences: χ^2(p-value)
H1a/H31a	Pleasure→ Informativeness	.236***	.200***	.261***	.638(.424)
H1b/H31b	Pleasure→ Effectiveness	.360***	.260***	.415***	**3.01 (.083)**
H1c/H31c	Pleasure→ Entertainment	.430***	.387***	.460***	**2.66 (.100)**
H2a/H32a	Arousal→ Informativeness	.130**	.148**	.105*	.444(.505)
H2b/H32b	Arousal→ Effectiveness	.025n.s.	.047n.s.	.022n.s.	.087(.769)
H2c/H32c	Arousal→ Entertainment	.291***	.266**	.314***	.025(.870)
H3a/H33a	Dominance→ Informativeness	-.109*	-.049n.s.	-.124*	.256(.613)
H3b/H33b	Dominance→ Effectiveness	.486***	.623***	.402***	**14.4(.000)**
H3c/H33c	Dominance→ Entertainment	.223***	.249***	.210***	1.93(.165)
H4a/H34a	Informativeness → Site Involvement	.500***	.401**	.577***	**3.10 (.078)**
H4b/H34b	Informativeness → Purchase Intentions	.128*	.083n.s.	.150*	**4.80(.030)**
H5a/H35a	Effectiveness → Informativeness	.565***	.679***	.534***	2.07(.150)
H5b/H35b	Effectiveness → Site Attitudes	.298***	.125**	.318***	**3.16(.076)**
H5c/H35c	Effectiveness → Site Involvement	-.063n.s.	-.178n.s.	-.021n.s.	1.83(.190)
H6/H36	Site Attitudes→ Service Attitudes	.520***	.601***	.474***	**3.02(.082)**
H7a/H37a	Site Involvement → Site Attitudes	.201***	.268***	.145**	2.51(.113)
H7b/H37b	Site Involvement → Purchase Intentions	.415***	.328***	.499***	1.70(.192)
H8/H38	Service Attitudes→ Purchase Intentions	.253***	.352***	.229***	2.16(.142)
H9a/H39a	Entertainment → Site Attitudes	.482***	.577***	.376***	**5.22(.022)**
H9b/H39b	Entertainment → Site Involvement	.277***	.444***	.156**	**4.55(.033)**

Table 14. Results of the invariance tests of the model between the two groups (***p<.001, ** p<.01, * p<.05)

5.3. Summary of Findings

Results suggested that the three emotional dimensions effects vary between the cultures. In line with our hypotheses (H31), pleasure has stronger impacts on customers' site effectiveness and entertainment for Canadians. On the other hand, the influences of dominance on customers' perception of site atmospheric cues were greater for the Chinese supporting H33. The influences of arousal on site informativeness, effectiveness, and entertainment were invariant between cultures,

failing to support H32.

Moreover, the impacts of high task cues –site informativeness and site effectiveness –on customer behavior variables were greater for Canadians than for the Chinese. More especially, the impacts of site informativeness on site involvement and purchase intention were stronger for Canadian supporting H34a and H34b. Similarly, the association of site effectiveness and site attitudes was stronger for Canadian customers, supporting H35b. The association of site effectiveness and site informativeness was invariant between the two groups, failing to support H35c. Furthermore, impact of site effectiveness on site involvement was not significant in either group.

The results suggested that the impact of site attitudes on service attitudes was stronger for Chinese compared to Canadian customers. This finding supports H36. The results did not support H37 as the influences of site involvement on site attitudes and purchase intention were invariant between the two groups. Furthermore, the association of service attitudes on purchase intention was invariant between the groups, failing to support H38.

The impacts of entertainment on site attitudes and site involvement were significantly higher for Chinese respondents compared to the Canadians supporting H39a and H39b.

5.4. Conclusion

Third study tests the proposed model of online customer behavior in services marketing again and compares all the relationships between Chinese and Canadian cultures. Most paths (18/20) are significant in at least one group. Furthermore, half of the 18 significant structural paths are invariant between the cultures. Given that the

Chinese respondents were students in Canada, it is expected to find even larger differences with mainland Chinese.

The results of multiple-group analysis support the proposed model and suggest several non-invariant structural paths between two cultures. More specifically, the results suggest that two types of emotions (pleasure and dominance) influence other behavioral variables differently in the two cultures. Living in an individualistic society, pleasure is the most influential type of emotions for Canadian customers. On the other hand, dominance is the key type of emotions for the more task-oriented customers and its influences on the other cognitive and affective variables are stronger for the Chinese than for Canadians. These findings suggest that website designers should use different techniques to increase visitors' feelings of pleasure and likeability of the website for Canadian and feeling of control over the website for Chinese customers.

Consistent with our hypotheses, the impact of *low task relevant cues* on site attitudes and site involvement are stronger for the Chinese who live in a long-term oriented, low uncertainty avoidance, and collectivistic society. On the other hand, living in a short-term oriented, high uncertainty avoidance, and individualistic society, Canadians rely more on the *high task relevant cues* to form their site attitudes, being involved in the site, and making a purchase decision. Service providers should enhance the hedonic aspects of the website for the Chinese and the utilitarian aspects for Canadians.

Given the Chinese emphasis on persistence, long-term alliances and causal reasoning, the association of site attitudes and service attitudes is found to be stronger for the Chinese compared to Canadians. Therefore, increasing customers' attitudes toward the website can be considered as a competitive advantage for service providers

who target the Chinese.

The findings suggest that the impacts of site involvement and service attitudes on purchase intentions are not significantly different between the cultures. Based on the individualism/collectivism dimension, this study hypothesized these relationships to be stronger for Canadians. However, in a society with high uncertainty avoidance, customers tend to create more "formal rules" for their decisions (Moon, Chadee, and Tikoo, 2008). Even though, Canadians make decisions based on self-interests, rules for the decision can be established. As a result, the influence of site involvement and service attitudes on purchase intentions becomes invariant between the groups.

Also, our findings do not support the influence of site effectiveness on site involvement. For some services, effectiveness of information content may allow customers to obtain the required information faster and more conveniently. In many cases, the faster they get their information, the faster they leave the website and the lower is their level of involvement. The wide range of services that was used might explain this contradictory finding. Future research should explore the moderating impact of service type in this relationship.

CHAPTER 6

OVERALL CONCLUSION

The purpose of this study was twofold. The first goal was to develop a more comprehensive model of online consumer behavior based on Zajonc (1980) theory of emotions and Mehrabian and Russell (1974) Stimulus-Organism-Response (SOR) paradigm. The second goal was to assess the moderating impact of product types and culture on the hypothetical relationships. This also increases the generalizability of the model.

This study divided the atmospheric cues into two groups. The first group influences customers' emotions at the initial exposure to the website. The visual and aural dimensions, such as background music and color, of the site belong to this group. This influence might be at the unconscious level.

The second group, however, is influenced by customers' emotions. This group includes characteristics that need customers' evaluations. Individuals should evaluate those features while they are surfing the website. Thus, distinction might exist between the firm's "intended site atmosphere" and "customer's perceived atmosphere".

This study proposes that the evoked emotions at the initial exposure –from the first group –influence customers' perception of site atmospheric cues –the second group. This is primarily based on Zajonc (1980) theory of emotions which states that individual's affective reactions precede the cognitive reactions,

Furthermore, we employ SOR framework to hypothesize the relationship among customers perception of site atmospheric cues and other variables such as site attitudes, site involvement, product attitudes, and purchase intentions.

The proposed model is validated in three studies. The results of all the studies demonstrate a good fit for the overall proposed model. In summary, the results confirm that the customers emotions at the initial exposure to the website is the antecedent of their perception of site atmospheric cues, such as site informativeness, effectiveness, and entertainment. Those perceptions, in turn, influence customers' site and product attitudes, site involvement, and purchase intention.

Two out of the 20 proposed relationships in the model are not supported. First, the impact of arousal on customers' perception of site effectiveness is not significant. Previous studies that use dimensional approach for emotions have reported different influences of pleasure and arousal on other variables as well (e.g. Mummalaneni, 2005). This relationship is not significant for the customers surfing physical good, search-, experience-, or credence-based services websites. This is consistent for both Chinese and Canadian respondents. Second, customer's perception of site effectiveness negatively associates with site involvement. This is consistent across all three studies. This might be due to the fact that the respondents in the studies were asked to surf the website and obtain information about the product. So, the faster they obtain required information, the earlier they leave the website. This trend might exist in some product categories. Nevertheless, further investigation is required to explore this relationship.

The results of the three studies confirmed that the impacts of emotional dimensions on customers' perception of site atmospheric cues vary. Pleasure has the strongest influence on customers' perception of site informativeness. Dominance has the strongest influence on customers' perception of site effectiveness. All three elements highly associated with the perception of site entertainment. This suggests

that dimensional approach is more accurate to assess the influence of emotions in online context.

Results of the three studies reveal that product classification and culture have significant moderating effects. First study demonstrates several non-invariant structural paths between physical goods and services websites. It suggests that emotions' influences are greater for customers of physical goods websites compared to those of services. The impacts of site entertainment and site attitudes are stronger for physical goods customers; whereas, the influences of site effectiveness are stronger for services customers.

The second study focuses on service industry and tested the model across three types of services: search-, experience-, and credence-based. Similar to the first study, results reveal several non-invariant structural paths. In search-based sites, the impacts of dominance on customers' perception of site atmospheric cues are the greatest. Furthermore, the association of site attitudes and service attitudes is significantly higher for this group compared to experience- and credence-based services. In both experience- and credence-based sites, pleasure is the most influential component of emotions. Pleasure strongly impacts customers' perception of site informativeness, effectiveness, and entertainment. The results suggest that site effectiveness is the most important atmospheric cue for credence-based service customers; whereas, site entertainment is the most important one for experience-based customers.

 The third study investigates the role of culture in online consumer behavior by testing and comparing the proposed model in two distinctive cultures; Chinese and Canadian. Results demonstrate that impacts of pleasure on customers' perception are stronger for Canadian customers; whereas, dominance is the most influential dimension for Chinese customers. In addition, influence of high task relevant cues –

site informativeness and effectiveness – on site attitudes, site involvement, and

purchase intention are stronger for Canadian customers; whereas, low task relevant

cue –site entertainment –influences is greater for Chinese customers.

CHAPTER 7

OVERALL LIMITATION AND FUTURE RESEARCH

To interpret the results, one should consider the limitations of these studies. To test the model and the hypotheses of the three studies, we used real physical goods and services websites. The only disadvantage is that we were not able to control for all variables. For example, the type of information might have a moderating effect on the site effectiveness and site involvement relationship. Future research should investigate the role of uncontrolled variables on the relationships proposed in the studies.

In study 1, we compared the relationships between physical goods and services. It is important to notice that all physical goods in this study involved certain level of service. We distinct physical goods from services based on the product offer in the website. Future study can distinguish the products based on the level of services offer to the customers.

In study 2, the manipulation of service categories might be a limitation. We did pre-test the services in each category. The results of the pre-test were confirmed by the respondents' input as well. However, the model can be tested with more services in each category to validate the results. Also, other product classification could be used to expand our understanding of online services marketing.

In study 3, the Chinese sample consists of Chinese students who are studying in Canada. Given the fact that we found differences between this group and Canadian sample, one would expect to find even greater differences using real customers from China.

The majority of our respondents in all three studies were students between 18 and 24 years of old. Given their familiarity with Internet technology, this group is the one who uses the Internet the most. However, one should be cautious about generalizing these finding to other segments of the population. Future research might investigate the possible moderating impact of age and/or social status on online customer behavior.

We created a utilitarian task for the respondents. They were asked to surf the website and collect information. The relationships might differ for a more hedonic task. Future research may explore the impact of the nature of the task on the relationships in the model.

Finally, the purpose of this study was to investigate online customer behavior. Respondents in the studies were exposed to the websites from personal computer. Development of m-commerce now allows customers to navigate the firm's website from their mobile devices. Future study should explore customers' behavior in this new context.

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Appendix 1. **List of items and results of EFA for three studies**

Constructs	Items	Factor Loadings		
		Study 1	Study 2	Study 3
Arousal	Unaroused ---Aroused	*0.48*	*0.42*	0.4
	Relaxed--- Stimulated	0.88	0.85	0.79
	Calm --- Excited	0.82	0.82	0.89
	Sleepy --- Wide-awake	*0.56*	*0.42*	*0.46*
Pleasure	Unhappy--- Happy	0.6	0.61	0.73
	Annoyed --- Pleased	0.79	0.77	0.88
	Dissatisfied --- Satisfied	0.81	0.76	0.84
	Despairing --- Hopeful	0.77	0.76	0.81
Dominance	I felt that I had a lot of control over my visiting experiences at this site	0.77	0.75	0.75
	While I was on this site, I could choose freely what I wanted to see	0.82	0.8	0.79
	While surfing the web, I had absolute control over what I could do on this site.	0.84	0.81	0.73
	While surfing the web, my actions decided the kind of experiences I got on this site	0.73	0.78	0.76
	While I was on this site, I controlled what happened in my online information searches	0.72	0.8	0.79
Site Informativeness	This site is informative to me	0.69	0.72	0.89
	This site is resourceful to me	0.8	0.77	0.92
	This site is useful to me	0.74	0.71	0.86
	This site is knowledgeable for me	0.7	0.71	0.78
Effectiveness of Information	The information on this site is convenient	0.6	0.63	0.77

Content	The information on this site is accurate	0.79	0.79	0.85
	The information on this site is up-to-date	0.82	0.79	0.8
	The information on this site is complete	0.67	0.73	0.74
	The information on this site is relevant	0.69	0.7	0.82
Site Entertainment	This site is fun to browse	0.69	0.68	0.9
	This site is exciting	0.72	0.7	0.93
	This site is imaginative	0.78	0.76	0.85
	This site is entertaining	0.8	0.78	0.89
	This site is flashy	0.77	0.74	0.72
Attitude toward the site	This site is bad --- This site is good	0.72	0.72	0.85
	I dislike this site --- I like this site	0.69	0.73	0.91
	I react unfavorably toward this site -- I react favorably toward this site	0.65	0.7	0.91
	I have negative toward this site --- I have positive feelings toward this site	0.63	0.66	0.88
	This site is unattractive --- This site is attractive	0.57	0.67	0.76
Site Involvement	This web site is: Unimportant to me --- Important to me	0.82	0.82	0.93
	This web site is: Irrelevant to my needs --- Relevant to my needs	0.83	0.82	0.92
	This web site is: Not worth remembering --- Worth remembering	0.79	0.77	0.88

	This web site is: Not worth paying attention to --- Worth paying attention to	0.81	0.79	0.89
	This web site is: Does not matter to me --- Matters to me	0.86	0.86	0.94
	This web site is: Insignificant to me --- Significant to me	0.86	0.85	0.96
Service Attitude	This service is bad --- This service is good	0.77	0.82	0.88
	I dislike this service --- I like this service	0.79	0.84	0.93
	I react unfavorably toward this service --- I react favorably toward this service	0.79	0.82	0.95
	I have negative toward this service --- I have positive feelings toward this service	0.78	0.83	0.94
	This service is unattractive --- This service is attractive	0.8	0.77	0.85
Purchase Intention	The likelihood of purchasing this product is high.	0.81	0.79	0.86
	The probability that I would consider buying the product is high.	0.78	0.79	0.92
	My willingness to buy the product is high.	0.74	0.74	0.88
	I intend to purchase this product.	0.76	0.75	0.85